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ABSTRACT

This collection of essays is intended to spark thoughtful discussion about future directions for developmental education. The essays grew out of a conversation among 21 local, regional, and national leaders in the field of developmental education at the "First Intentional Meeting on Future Directions in Developmental Education," held in October, 1999, in Minneapolis, Minnesota. Participants submitted written comments regarding current issues. These comments were used to shape the meeting's 16 session themes. Those themes, presented in this paper, are: (1) "Historical Perspectives"; (2) "Defining Developmental Education as a Profession"; (3) "Theoretical Frameworks that Span the Disciplines"; (4) "Research in Developmental Education"; (5) "Pedagogical Issues and New Directions"; (6) "Innovation and Expansion in the Breadth of Programs and Services"; (7) "Technology and the 'Knowledge Age'"; (8) "High School to College Matriculation"; (9) "Enhancing Student Access and Retention"" (10) "Collaboration and Partnerships"; (11) "Predicting Success"; (12) "Assessment and Outcomes"; (13) "Institutional Fit: Mission and Structure of Programs Within Different Types of Institutions"; (14) "Costs and Economic Impact of Developmental Education"; (15) "Enhancing Credibility, Gaining Recognition"; and (16) "Standards: Implications for Training, Professional Development, and Education." Includes a list of 108 suggested readings. (NB)

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October 5-6 1999

Proceedings

ED 462 119

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October 5-6, 1999
Minneapolis, Minnesota

Co-Sponsored by the General College and
The Center for Research on
Developmental Education and Urban Literacy,
University of Minnesota

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Editors:
Dana Britt Lundell and Jeanne L. Higbee

THE CENTER FOR RESEARCH ON DEVELOPMENTAL EDUCATION AND URBAN LITERACY

UNIVERSITY OF MINNESOTA

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Foreword

Terence Collins and David V. Taylor

The Center for Research on Developmental Education and Urban Literacy, in the General College at the University of Minnesota, is pleased to offer this collection of essays as a heuristic to thoughtful discussion about future directions for developmental education. These essays grew out of a conversation among 21 leaders in the field of developmental education at the "First Intentional Meeting on Future Directions in Developmental Education" held in October, 1999, in Minneapolis. Coming together at a historical moment in which policy-makers and legislators are in full retreat from the principle of broad access, the group consisting of researchers, writers, teachers, economists, and administrators was energized by a sense of urgency and purpose and focused on several strands of inquiry.

The essays printed here capture the essence of two long days of hard work and frank discussion. We sincerely hope that these written records prove useful in extending the energy of the meeting to administrative circles, faculty offices, water coolers, and classrooms near and far. The issues raised point to vital questions concerning key elements at the heart of our social democracy, fostering new knowledge on ways in which meaningful access to higher education might be fostered for the broadest spectrum of citizens.

In offering this collection of essays, we want to thank the Graduate School of the University of Minnesota for the grant that led to the founding of the Center for Research on Developmental Education and Urban Literacy. We especially thank Robert Bruininks, Executive Vice-President and Provost of the University of Minnesota-Twin Cities Campus for his enthusiastic support of the Intentional Meeting; and Mark Yudof, President of the University of Minnesota, for his strong commitment to the General College and to the principle of access. For our colleagues from around the country whose ideas are captured here, we are grateful for their time, insights, energy, and contributions. Finally, Dana Lundell and Jeanne Higbee devoted themselves to the First Intentional Meeting and to editing this collection of essays, and we thank them for their leadership.

Introduction

Dana Britt Lundell and Jeanne L. Higbee

In October, 1999, a group of local, regional, and national leaders in the field were called together by the General College of the University of Minnesota for its first Intentional Meeting on Future Directions in Developmental Education. Prior to this two-day meeting, participants were asked to submit written comments regarding current issues in the profession. Specifically, we requested that they address a range of areas related to developmental education and their own areas of expertise, including issues of policy, economics, definition, theory, research, pedagogy, support services, and practice. Their responses reflected a diverse and thoughtful range of experiences and approaches to identifying future directions in the field.

The following quotes, which were used in shaping the meeting's 16 session themes, provide some insight into the depth and breadth of ideas shared by participants. We highlight a few comments here.

Norman Stahl provided the historical context for the meeting. He wrote,

> As educators throughout the industrial world face the end of the 20th century with its world view forged by the philosophers of modernity and we move forward into the 21st century with its evolving themes of postmodernity, it is accepted that academic leaders will begin the process of evaluating our knowledge bases formed of theory and research as well as the successes and the failures of what have been perceived as best practices in curriculum and instruction. As is also the general case with reaching such an important temporal line of demarcation, one may expect that individuals will postulate theories of what will be the important trends in research and practice in the years ahead.
>
> And so it is that we as an identified group of leaders in our chosen areas of expertise in developmental education and learning assistance (hopefully selected for reasons other than professional longevity and grayness of hair) join together in scholarly dialogue in Minneapolis in the waning weeks of the 1900s. It is so appropriate that we are called together by the General College with its long history of involvement with non-traditional students.

Martha Casazza addressed the need for a cross-disciplinary theoretical framework for practice, stating,

> We need to heighten our awareness of how theory and research from a variety of disciplines can be integrated and impact our practice. By looking at work from the fields of psychology, college student development, adult learning and higher education, to name just a few, we can develop programs that better meet the needs of all students.

Several participants wrote about mainstreaming developmental education. David Arendale explained,

> The issue of how to "mainstream" developmental education is critical to providing the essential enrichment and support for all students. With the uneven support nationwide to developmental education courses, it is essential to discuss how to embed the best elements of developmental education into the core curriculum of graduate-credit courses. This may be through the use of learning communities, linked courses (e.g., world civilization linked with a critical reading course), Supplemental Instruction, or other research-based practices.

Henry Levin wrote,

> In many respects, the most important trend in developmental education is the movement to contain it in the Community College. In my view, this will have serious deleterious effects on both community colleges and on developmental education by segregating these students into ghettos in which everyone will be a developmental student. Community colleges will be viewed as remedial institutions, discouraging students without developmental needs from entering them. At the same time, developmental studies students will lack peers and role models who have been more successful and who can serve

to support and encourage them. They will have little access to mainstream courses at a high level because community colleges will lack a critical mass of students who do not require developmental work. For those of us who believe that learning communities and positive peer interactions are as important as quality instruction in developmental studies, this will be a disaster. My interests lie in demonstrating that developmental studies ought to be viewed as enrichment rather than remediation and to create stronger links between developmental studies and mainstream educational experiences through linked courses, Supplemental Instruction, learning communities, and the like.

Martha Maxwell commented,

> Although studies for over 50 years have demonstrated that comprehensive, well integrated programs that provide counseling, tutoring, skills instruction, mentoring and content courses are the most effective way to help underprepared students succeed in college, today they are considered too expensive and are rarely offered. It is cheaper and easier to give all students a standardized entrance test and mandate that those who fail take developmental courses.

George Otte also addressed mainstreaming, but added concern regarding the transition from high school to college. He wrote,

> We may have managed the semantic shift from "remedial" to "developmental," but we still think in terms of "treatments": term-long bouts of instruction that have all the stigmata of compartmentalized, egregiously time-bound instruction. Our students are not well served by all-too-discrete units of instruction, and all the research indicates that measurable improvements are not easily seen in the short-term. We tend to construct developmental education like a series of canal locks, with gates and lifts, when it needs to be more like a river as it reaches the sea. We need to see each student's education as a continuum, not as a series of discrete experiences. This is especially true of the single most profound "disconnect": not between developmental instruction and the so-called mainstream but between high school and college.

Shevawn Eaton brought up the issue of student motivation, saying,

> The most compelling question to me as a developmental educator is how to motivate students. I work with a special admission program at our institution, and do all data analysis for it. Traditional predictors of academic success are virtually useless in determining who will persist and succeed academically.
>
> The most frustrating question for me as a developmental education researcher is how to measure and/or identify motivation. I just completed an in-house study that examined how students performed after two semesters as compared to the impression they gave at our admission interview the previous fall. Not only do the traditional academic predictors fail, but so do our interviewers' perceptual/tacit measures of successful student behavior.

Laura DeMarais was one of several participants who emphasized use of technology in her comments. She wrote,

> One key issue as we look at the future of developmental education is computer literacy and efficient utilization of technology in the classroom. No longer can we afford to get stuck on the question, "Should we be using computers in the classroom?" The real question now is "How do I effectively integrate technology into my class?" There is a need for continued research that focuses on the utilization and capabilities of technology to serve our students' academic needs.

Martha Maxwell mentioned professional training and standards and discussed the issue of credibility.

> The field of Developmental Education, although it has advanced in many ways, in developing program standards, for example, is still plagued by the same old problems and policies that have restricted it for many decades. As a profession, it lacks academic credibility and respect from faculty members and administrators. It is not recognized as an academic discipline—nor even a division of academic departments. There are less than a handful of institutions offering graduate degrees in the field. Most new practitioners enter the field with neither formal training nor experience in teaching college students and/or adults. In many cases they are left on their own to develop programs, courses, and strategies. In other words, each new person starts from scratch....
>
> Developmental Education not only lacks academic standing, but its practitioners do not have power to set or even contribute to policy decisions within their academic communities. Campus administrators, faculty and/or political officials—those with the least understanding of the problems—make policy decisions.

Betsy Barefoot, who introduced her comments by noting that she is not a developmental educator, yet her work with "first-year students... has much in common" with developmental education, challenged developmental educators to develop a much needed action plan.

> My view of developmental education is colored by my own experience and research, but also by what I hear and learn from others with whom I have professional interaction. Although the primary purpose of this essay is to suggest new research directions, I would be less than honest if I did not admit that I believe developmental education has a much more pressing and potentially threatening set of problems. The very existence of learning assistance programs—and for that matter, any program that is seen as giving students academic support—is being threatened across the U.S. In 1997, 31 states debated the legitimacy and placement of developmental programs, and in my own state of South Carolina,... developmental education has been officially removed from all four-year public institutions.
>
> Additional research and broad dissemination of that research beyond the confines of the developmental education community will help align the field with the predominant value system of the academy, but only if that research finds its way into the academic mainstream. Therefore, along with a recommended research agenda, I would also argue for an action agenda committed to promoting and affirming the value of developmental education, collaborating with faculty in both service delivery and research, and lobbying for support at the campus, state, and national level.

As Barefoot and others accurately pointed out, it is essential that we take an active stance in our work as professionals in developmental education. That was our goal in hosting this meeting, and it became the focus of the participants' conversations in the meeting's 16 breakout sessions. In this set of proceedings, the essays provide a summary of these session themes and begin to outline a useful framework for future action. The essays reflect a range of recommendations, questions, debates, and concerns addressed by participants in these thematically-focused conversations. There is overlap across the sessions, as well as divergent strands representing the multiple perspectives and types of programs in developmental education. Participants also provided suggestions for the bibliography of recommended readings included with these proceedings.

We hope that this document will encourage national debate on issues of importance to all developmental educators. Further, we hope that these essays will prompt much needed future research.

We would like to express our appreciation to the following individuals who made this meeting and these proceedings possible. Thanks to Dean David Taylor and the General College for supporting the Center for Research on Developmental Education and Urban Literacy, and for his generous funding and support in co-sponsoring this meeting. We also greatly appreciate Terence Collins' vision and leadership in defining the overall goals for the meeting.

The meeting's 21 participants were all generous and thoughtful in their work during this time, and we specifically acknowledge the contributions of the conveners as co-editors of the summaries and leaders in their sessions. Lori-Anne Williams and Devjani Banerjee-Stevens also provided excellent support in organizing and hosting the meeting. We would like to thank the recorders, all members of the General College faculty and staff, who assisted us in taking detailed notes of the sessions: Patrick Bruch, Gregory Choy, Caroline Gilbert, Jay Hatch, Heidi Barajas Howarth, Robin Murie, Bobbie Rush, Bruce Schelske, Sharyn Schelske, Linda Tetzlaff, Jill Trites, Cathrine Wambach, and Robert Yahnke. Finally, thanks to Karen Bencke from General College Technical Support Services, who designed and formatted this publication.

Participant Biographies

David Arendale is the Director of the National Center for Supplemental Instruction located at the University of Missouri-Kansas City. For the past two decades Arendale has been extensively involved with programs related to student success; has been a frequent conference speaker; and has authored or edited 85 articles, monographs, and videotapes. Arendale is an advisory board member of the National Center for Developmental Education, editorial board member of the *Journal of Developmental Education*, and a Founding Fellow of Developmental Education by the American Council for Developmental Education Associations.

Carol Bader is Chairperson of the Developmental Studies Department at Middle Tennessee State University, which won the NADE Outstanding Program Award in 1993. She is co-author of two textbooks, serves as Chairperson of the Tennessee Board of Regents Research and Development Council, has published numerous articles, made numerous presentations, and serves on the Editorial Board of the *Journal of Developmental Education*.

Betsy Barefoot served for 11 years as Co-Director for Research and Publications in the University of South Carolina's National Resource Center for the First-Year Experience. In October of 1999 she left the University and joined John N. Gardner to help found a new entity funded by The Pew Charitable Trusts: the Policy Center on the First Year of College. The Policy Center, which is domiciled at Brevard College in Brevard, NC, works specifically in the area of first-year assessment.

Lois Bollman is the Dean of Academic Affairs at Minneapolis Community and Technical College, has served as System Director for Assessment in the Minnesota State Colleges and Universities System Office for four years, and has served as System Director for Student Success in the Minnesota Community College System for six years. In those positions, Bollman provided system-level leadership to a research agenda that included defining college readiness in reading, writing, and mathematics and learner outcomes from developmental courses as well as a two-year follow-up study of 20,000 students in Minnesota Community Colleges that examined the effectiveness of developmental education.

Hunter R. Boylan is the Director of the National Center for Developmental Education and a Professor of Higher Education at Appalachian State University in Boone, NC. He is also the editor of *Research in Developmental Education*, a member of the editorial boards of the *Journal of Developmental Education*, the *Journal of Teaching & Learning*, and the principal investigator for the ongoing National Study of Developmental Education. He is the current Chairperson of the American Council of Developmental Education Associations and the former President of the National Association for Developmental Education (NADE). He has received NADE awards for "Outstanding Leadership" and "Outstanding Research." In 1996, NADE designated its award for "Outstanding Research Publication," the "Hunter R. Boylan Award" in honor of his contributions to research in the field.

Martha Casazza is a professor in the Developmental Studies graduate program at National-Louis University. She is immediate past president of NADE and currently chairs its Certification Board. She recently co-authored a book titled *Development and Learning*.

David Caverly has been involved in developmental education for over 25 years teaching reading and directing learning centers in community colleges, four-year colleges, and universities. Perhaps he is best known for his column "Tech Talk" in the *Journal of Developmental Education* and his edited book with Rona Flippo, the *Handbook of College Reading and Study Strategy Research*. Since 1989 he has been Professor of Education at Southwest Texas

State University, where he directs the developmental reading program and teaches reading and research classes in the Graduate Program in Developmental Education and the Teacher Education Program.

Terence Collins is Director of Academic Affairs and Curriculum in the General College—University of Minnesota. He is a Morse-Alumni Distinguished Teaching Professor. His teaching and research interests are basic writing, disability studies, and technology in developmental education.

Laura DeMarais is the director of an academic support center at the University of St. Thomas in St. Paul, Minnesota. She is also past President of the Minnesota Association for Developmental Education (MNADE).

Shevawn Eaton has been the Director of ACCESS, the academic services component of Northern Illinois University's special admissions program, for the past seven years. She is the immediate past President of the Midwest (now, National) College Learning Center Association.

Jeanne Higbee has worked in different facets of the field of developmental education since 1974, when she coordinated the Learning Skills Program as a graduate assistant at the University Wisconsin-Madison Counseling Center. Prior to joining the faculty in the General College-University of Minnesota, she taught developmental courses at the University of Georgia for 14 years. She is the 1999 recipient of NADE's Hunter R. Boylan Research and Publication Award, and she serves as editor of the NADE monograph series.

Henry M. Levin is the William Heard Kilpatrick Professor of Economics and Education at Teachers College, Columbia University, and the David Jacks Professor Emeritus of Higher Education and Economics at Stanford University. He is a specialist in the economics of education and has been doing work in recent years on accelerated schools for at-risk students as well as replacing traditional remediation in higher education.

Dana Britt Lundell is the Director of the Center for Research on Developmental Education and Urban Literacy in the General College-University of Minnesota. She received her Ph.D. in Education at the University of Minnesota in December, 1999. She currently serves as Associate Editor of the NADE monograph.

Patricia A. Malinowski is a professor in the Developmental Studies Department at Finger Lakes Community College in Cananadaigua, New York. She has also served as Chair of the department since 1990, supervising course offerings and staffing the academic support centers, adult education program, services for students with learning disabilities, and a college-to-work transition program. She is also editor of the New York College Learning Skills Association's journal, *Research and Teaching in Developmental Education*.

Martha Maxwell established learning centers for reading and study skills programs at American University, University of Maryland, and the University of California at Berkeley. She founded the Summer Institute for Directors and Staff of College Learning Centers at Berkeley in 1976. Since retiring from Berkeley she has written four books and served as speaker and mentor at many conferences and institutes.

Michael O'Hear holds a doctorate in English from the University of Maryland and has headed the Transitional Studies program at Indiana-Purdue Fort Wayne for 24 years. The immediate past President of the College Reading and Learning Association, he is a frequently published author in areas related to developmental education and learning assistance.

George Otte, who holds an appointment to the CUNY Graduate Center, is Executive Director of Enrichment Programs at Baruch College. He is a contributor to the CUNY WriteSite (an online writing resource), Co-Director of Looking Both Ways (a professional development collaboration between college high school teachers of writing), co-editor of the *Journal of Basic Writing*, and Co-Chair of the CUNY Association of Writing Supervisors. He is currently compiling web resources for professional development for the Office of Academic Affairs of the City University of New York.

Norman A. Stahl serves the field of developmental education currently as the Acting Chair and Professor in the Department of Literacy Education at Northern Illinois University with earlier service at Georgia State University, the University of Pittsburgh, and San Francisco State University. He has been the President of the College Reading Association, the Chair of the American Reading Forum, and now he is the Historian for the National Reading Conference. His published works on the history of developmental education as well as on other field-related topics

have appeared in our journals on a regular basis over the years.

David V. Taylor has served as Dean of the General College at the University of Minnesota Twin Cities Campus since 1989. Prior to coming to the General College, Dr. Taylor was the Associate Vice Chancellor for Academic Affairs, Minnesota State University System Office. In addition to a variety of faculty and administrative positions held over the past 30 years, Dr. Taylor, an historian by training, has written and lectured extensively on the migration and settlement of African Americans in Minnesota. His career in postsecondary education has encompassed leadership in both academic affairs and student services. He is active in many community outreach initiatives and serves on several nonprofit boards.

Pamela Thomas earned her doctorate in Educational Psychology at the University of Georgia (UGA) following a productive career teaching K-12 mathematics. She is currently a faculty member of UGA's Division of Academic Assistance. For 10 years she has taught developmental courses in math and problem solving, and, more recently, has become well-known in the Athens community for teaching college algebra on television. She has co-authored numerous articles related to breaking down barriers to achievement in mathematics.

Lori-Anne Williams is the coordinator of the General College-University of Minnesota Grants Office. During the past two years, grant activity at General College has risen more than 80%. Prior to working at the University of Minnesota, Lori-Anne managed the Wayside Theater (Middletown, VA) and the Playwrights' Center (Minneapolis) and was Manager of communications and grants for the YWCA of Minneapolis.

Historical Perspectives: With Hindsight We Gain Foresight

Norman Stahl, Convener,

Hunter Boylan, Terence Collins, Laura DeMarais, Martha Maxwell

Bobbie Rush, Recorder

Summary compiled by Norman Stahl

The field of developmental education and learning assistance, along with its acknowledged subfields of college reading and study strategy instruction, basic composition instruction, and developmental mathematics instruction, might best be described as a very young but old field. For so many of our programs, it has been less than a generation since they were birthed, and for so many or our colleagues, it has been less than a decade since they began their service to the profession. On the other hand, the field of developmental education and learning assistance has a long and honorable history in service to the postsecondary institutions of the nation (Boylan, 1988; Maxwell, 1997; Stahl & King, 2000).

Hence, it is appropriate that we were called together in the waning days of the 20th century by the General College with its own long history of involvement with nontraditional students. It is equally appropriate that we met at the University of Minnesota, which has given so much to the field through the research, curriculum development, and important leadership of its faculty and staff such as Alton Raygor, Frances O. Triggs, Charles Bird, and David Wark. Their contributions form, in part, the history of developmental education and learning assistance.

The Historical State of the Art

We have a history to celebrate, but what have we done to preserve and to study our heritage? Clearly we have come some distance in recent years in the development and the publication of a respectable corpus of historical studies (Stahl & King, 2000). This history has been presented in a growing literature base composed of historical chronicles (e.g., Brier, 1983; Leedy, 1958), historical summaries and timelines (e.g., Boylan, 1988; Boylan & White, 1987; Maxwell, 1997; Wyatt, 1992), and topical or era-oriented papers (e.g., Quinn, 1995; Stahl, King & Eilers, 1996; Stahl & Smith-Burke, 1999). In reviewing the literature, one finds that broadly oriented sweeps of the historical landscape abound, but there is still a limited number of historical works focused on individuals, institutions, curricular movements, instructional innovations, and specific eras.

As long-term participants in our field, we have come to value the historical perspective and to recognize its importance as our field strives to be recognized as a legitimate academic entity by our colleagues throughout the academy. We fully understand that the conduct of historical research should be more than simply trying to fix one's own place in history. Instead, we put forward a clarion call to all members of the field to undertake the continued examination of our roots and of our heroes from years gone by so that the legacy and the valued knowledge of the past two centuries can be shared with colleagues and simply not fade away in the new millennium.

Developmental Education History at the National and State Levels

In advocating our position, we acknowledge that our history might be studied at two separate but nonetheless integrated levels: the national and state level, and the institution and program level. Let us examine the former at this point. Throughout our discussions of the field's history at the national level as it goes back into the 1800s, there were numerous questions raised that might guide future research. Several examples can be put forward for the reader's consideration at this point:

1. Through what scholarly lenses (e.g., social history, critical pedagogy) have we or might we examine our field's history?

2. How have the contributions from our field impacted the larger field of postsecondary education over the decades? To what degree have we been either change agents or pawns in the larger arena?

3. How have the historical events and the curricular innovations and trends of postsecondary education impacted our field over the years?

4. What and how have governmental actions, economic policies and events, social issues, legal rulings, immigration trends, and general educational orientations and innovations influenced programs?

5. What have been the important programs and what were their particular contributions during past historical eras?

6. Who have been the individuals who have influenced the field, and what have been each individual's key contributions?

7. What were the landmark scholarly texts, assessment devices, and curricular materials across the years, and why did these texts gain such status?

Questions pertaining to our past such as the aforementioned are among many requiring initial or continued scrutiny by the research community. In addition, clear consideration should be given to such questions by graduate students as they look for original and scholarly topics for either their thesis or their dissertation research.

Developmental Education History at the Nearby Level

Let us now turn to a more localized or nearby form of historical endeavor for the developmental educator and the learning assistance professional. It is unfortunate that the orientation to history so many of us encountered in school taught us to value a cult of facts associated with great men, just wars, and momentous movements of the premodern and modern eras. All the while we overlooked the more personal and, ever so often, more relevant facets of nearby history. (See Kyvig & Marty, 1982, for in-depth coverage of many of the ideas underlying the practice of nearby history.) Indeed, as William Shakespeare penned, there is history in all men's lives.

Clearly developmental educators must be ever cognizant that history is not the sole province of national and international events. If historical events and sociopolitical movements of the past two centuries have shaped the developmental education profession of 2000, so too has the impact of each been felt at the program, the institution, and the system levels. Furthermore, important history has been made within these organizations as well.

The five of us are in strong concordance that our colleagues within the developmental education and the learning assistance professions must place value on and then undertake the chronicling and celebrating of the roots of our respective programs whether these be at universities, liberal arts colleges, community colleges, or technical colleges. It is so true that the profession has much to gain by learning about our respective programs' origins, milestones, dynamics, and effective leaders. The profession has much to learn from how particular programs faced and overcame adversity brought by academic forces internal to the institution or the higher education system, or by sociopolitical forces playing themselves out at the state or national levels. The profession has much to gain by embracing and promoting the practice of nearby history as a valued scholarly activity for the program, the institution, and the field of developmental education.

It is with the study of nearby history, whether through the review of published documents and unpublished sources, the examination of artifacts, or the conduct of oral histories, that we can answer questions such as the following:

1. Who are we as developmental educators, as members of our profession, and as members of our academic communities?

2. How have our programs evolved over the years to become what they are today?

3. How have we been able to contend with the various situations, both internal and external to the program, that have been encountered over the years of program operation?

4. What can we expect from people, programs, and policies that impact our professional lives?

5. How might we use historical lessons at one's campus and from other schools to predict and plan for the future?

It is through the conduct of nearby history (for examples see Spann, 1996, and Walker, 1980) that we are able to build a professional community and a professional identity, all the while being able to celebrate the distinctiveness of each of our programs.

History in Our Future

Where we have failed, and we might say failed rather dramatically, is in the promotion of the historical perspective to those individuals serving in developmental education or learning assistance positions. National accreditation boards and state certification agencies require that all prospective teachers from preschool through the 12th grade demonstrate knowledge of the historical foundations of education. Individuals seeking advanced degrees in higher education are required generally to complete course work pertaining to the history of higher education. Our colleagues in developmental education do not have at this time formal accreditation agency mandates, and only in rare circumstances do they meet with institutional mandates requiring knowledge of the history of our field.

Because developmental educators and learning assistance specialists are more often than not self-trained in the field, few individuals have had the opportunity to learn about and hence to value our field's rich heritage. Formal degree programs and certificate programs such as those offered by Appalachian State University, Grambling State University, Southwest Texas State University, and National Louis University are limited. Graduate courses like those found at Northern Illinois University and the University of Georgia that cover our history are not prevalent. It is little surprise, then, that we recommend that existing training programs direct attention to the historical foundation for the field through course objectives and degree requirements. In addition, we believe that through distance education and on-line courses there will be boundless opportunities for quality instruction about our field to be delivered to individuals not able to attend more traditional venues. In the future as this becomes the case, any courses or programs that make use of nontraditional delivery systems should include historical coverage of the field.

Presentations on the field's history continue to be quite limited at conferences and symposia such as those put on by the National Association for Developmental Education (NADE), the National Center for Developmental Education (NCDE), and the College Reading and Learning Association (CRLA). Unfortunately, when historical topics are available, the sessions tend to be attended poorly as individuals are more often than not seeking sessions providing guidance and best practice for the day-to-day concerns of the developmental educator. Hence, we voice a shared opinion that our national and state professional associations as well as those institutions delivering conferences and institutes should strive to foster the study of our history and the dissemination of such endeavors. Those organizations that do not have a historian on the board of directors, should appoint an individual to such a position. Those organizations that have an individual or committee charged with promoting the historical perspective of the organization and of the field should develop a formal plan by which the celebration of our history is an ongoing activity through the development of historical narratives and oral history projects.

We close this paper with a feeling that we all took away with us from our conversations. It is time for our colleagues to become students of our history. It is time for our colleagues to value our historical contributions to postsecondary education. It is time for our colleagues to become historians of our field both at the national and nearby levels. It is time for the leadership of the field to have the conviction to support research and activities delving into our honored heritage. Finally, it is time for all of us to realize that through informed hindsight we gain the foresight necessary to move the field forward in this new millennium.

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Defining Developmental Education as a Profession: Students, Programs, and Services

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Summary compiled by Patricia Malinowski

Perhaps one of the most difficult things for any profession to do is to develop a clear, concise definition upon which all members can agree. This coming to consensus is more difficult for developmental educators due to the wide array of areas from which we all come. Unlike our colleagues in other academic departments, our areas of expertise and backgrounds may be from a variety of content areas like English, Mathematics, Science, Social Science—just to list a few—and may be housed together in one department. We find ourselves in quite a quandary and, at this session, we raised more questions than answers regarding our position within the postsecondary structure. These questions, however, provide a starting point for both reflection and research.

The first question is where to start. Who are we? This question has undoubtedly haunted developmental educators since learning assistance or support became a part of the college and university structure. The National Association for Developmental Education (NADE) offers this definition and a place to start.

> Developmental education is a field of practice and research within higher education with a theoretical foundation in developmental psychology and learning theory. It promotes the cognitive and affective growth of all postsecondary learners at all levels of the learning continuum. Developmental education is sensitive and responsive to the individual differences and special needs among learners. Developmental education programs and services commonly address academic preparedness, diagnostic assessment and placement, development of general and discipline-specific learning strategies, and affective barriers to learning (NADE, 1995).

The members of NADE who spent many hours arriving at this statement tried to develop one definition that was broad and inclusive; however, do all programs and all developmental educators fit this definition? Does this statement adequately define what we do and how we do "it?" Is the definition more closely tied to our individual campuses and states? These three questions alone provide topics for further discussion.

Along these lines, one of the areas to consider is the idea of an "umbrella" that can bring developmental educators together whether they are at community colleges or involved in graduate programs. Most of our colleagues at the postsecondary level have a common content area that is shared. Student personnel professionals, for example, brought all student services areas together under the concept of student development theory. We do not and have not been able to do the same. The result is often a feeling of isolation from the rest of the university and sometimes placement at the bottom of the budget process. It is not unusual that when budget crunches arise, developmental education is the first to be cut, tends to be the area with the most adjunct instructors, and is often perceived as a stepchild to the rest of the university. The research questions that follow from this are: Will we be able to find an umbrella under which we can all fit? Will we be able to develop a reputation that will insure credibility at the postsecondary level? How do we do this? Does this mean the development of more postgraduate (master's and doctoral) programs? Does this mean licensure within the area of developmental education?

Terminology has also been a long-standing controversial issue within developmental education. The terms "remedial" versus "developmental" have often been hotly debated. Some states, for financial aid reasons, have even developed their own definition of both of these terms, while other states are moving "remedial" education to the high school by developing high school to college bridge programs or summer programs for at-risk students. "Learning assistance," "learning support," developmental education courses," and "developmental education programs" are additional terms that have varied meanings often dependent upon the top college administrators, college environment, and the prevailing attitude of the institution's faculty.

Also to be considered is developmental education's

link to learning theory and developmental psychology. There is a need to investigate this relationship and decide whether developmental education is a theory or a process. In doing so, components such as motivation, teaching techniques and strategies, and transferability of knowledge (or skills) can be evaluated and outcomes developed.

To return to the initial question, "Who are we as a profession?" some common threads evolved from the discussion:

1. The area of developmental education provides various kinds of academic support. This may be through such methods as, but not limited to, programs, courses, learning assistance centers, Supplemental Instruction, and peer tutoring.

2. Developmental educators focus upon helping people attain their educational goals and objectives.

3. Developmental educators are an integral part of the process of education.

4. Developmental educators must become more active in making their presence and worth known on the postsecondary level.

Did we arrive at a definition of a developmental educator? No, but we have identified issues regarding who we are, what we need to do, and what we need to investigate. The bottom line becomes that by defining ourselves and our role within the academy, we ensure that students deemed "at-risk" continue to have the opportunity to partake in postsecondary education and even be successful.

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Theoretical Frameworks That Span Disciplines

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Summary compiled by Terence Collins and Patrick Bruch

The work of postsecondary developmental education is constituted of a wide range of practices located in a similarly wide range of institutional sites. This wide range of practices forms a familiar, if befuddling, terrain to anyone who reads developmental education journals or attends National Association for Developmental Education (NADE) or College Reading and Learning Association (CRLA) conferences. In some sites, for instance, "developmental education" means a learning assistance center housed in the basement of the library, staffed by part-timers, divorced from the curriculum, funded tentatively and, most likely, poorly. Down the road, "developmental education" means well-organized, adequately funded, and thoughtfully evaluated Supplemental Instruction programs targeted on barrier or gateway courses, with the full support of faculty and administration. Still elsewhere, arbitrarily legislated placement mechanisms drive students (too often, students of color) into "developmental education" queues of noncredit, "remedial" reading, writing, and mathematics courses that serve as grease on the educational revolving door. And sometimes, thoughtful placement, advising, tutorial assistance, curricula, learning assistance, Supplemental Instruction, funding, faculty, administration, research, and institutional commitment all manage to merge into effective "developmental education" structures that support a wide range of students.

In thinking about the future roles to be played by a more vital conversation of theory, the most important question that we can ask about the range of practices and sites that constitute developmental education might be the following: Is the diverse practice of developmental education simply the result of historical accident and local pragmatics brought to bear on issues of access to higher education? Or can this range of practice be seen to constitute a purposeful and vigorous academic discipline, wrought from the thoughtful interplay of interdisciplinary theories that form our varied practices?

We know at the start that the answer to our question is a resounding "both." But we also assert that there is something to be gained by pressing the question further. That is, the burden falls to developmental education professionals to make it clear how interdisciplinary theories can and do, explicitly and intentionally, inform sound practice. The purposes of such theorizing revolve around taking best advantage of the multidisciplinary expertise we bring to our field. Explaining the theoretical foundations for practices can help colleagues better understand individual students, the social, cultural, and institutional situations of those students, and the barriers to learning faced by our students. Theory can help us transfer knowledge across institutions to better serve students and better sustain each other by contextualizing best practices in terms of the generalizable issues that those practices address. As well, by making the principles that underlie our practices available for reflection and intentional revision, theorizing our practice can also contribute substantially to review and improvement of our programs and services. Given the gains to be made through the process of vigorously theorizing our practice, "developmental education" as simply a hodge-podge of contingent local practices guided by inexplicit and largely unintentional theoretical frameworks is no longer good enough.

What theories from various disciplines, then, might inform a vital interdisciplinary theoretical framework for developmental education? And how might those theories be made available to the broad range of developmental educators in ways that helpfully inform practice? So far, developmental educators have not been very successful in creating a coherent conversation about the theories that ground our practices (Lundell & Collins, 1999). We offer what we hope might form the beginnings of such a process of shared articulation of interdisciplinary theory in the service of better educational practice.

There are literally dozens of theoretical perspectives spanning multiple traditional disciplines that can contribute to the informed practice of developmental educators. A preliminary list might begin with the following disciplinary backgrounds and the theories which form

them:

- Adult education
- Counseling and student personnel psychology
- Critical democracy theory
- Critical race theory
- Disability studies, including disability culture theory
- Economics
- History of higher education
- Learning theories of various types
- Linguistics theory and research
- Multicultural education theory
- Political philosophy
- Psychology of individual development
- Resiliency theory
- Retention theory
- Self-efficacy theory and research
- Social constructivism theories, especially as applied in pedagogical approaches
- Social psychology
- Sociolinguistics
- Student development theory with a cognitive development emphasis
- Student development theory with a social development emphasis
- Technology and its uses
- Vocational education
- Women's studies

We think it important to note that it is not from such disciplines or perspectives in isolation that we can construct powerful theories to guide practice in developmental education. Rather, it is from the purposeful interpenetration of the theories that inform disciplinary practices that the richness of an interdisciplinary theoretical framework for developmental education might emerge.

What might this mean in practice? We acknowledge that many developmental educators labor in conditions that do not afford them meaningful time or financial support to attend conferences such as CRLA or NADE, or to immerse themselves in ambitious reading programs. Formation of interdisciplinary theories must have in mind the pragmatic business of informing the project at hand, and so such theory building must be flexible and adaptable. Examples from actual practice might serve to illustrate what can happen when strong interdisciplinary theories are enlisted in formation of an intentional theoretical framework within which to view problems or practice in developmental education:

Example: At Teachers College, Columbia University, Henry M. Levin is using economic models, retention theories, and critical democracy theories to help answer policy questions about what sorts of "remedial" or developmental education strategies are most efficient and effective (i.e., "Replacing Remediation in Postsecondary Education with Accelerated Approaches," a collaborative project with the National Center for Postsecondary Improvement at Stanford University). This study is national in scope, and examines programs in a range of institutions. Because the study is longitudinal, because it looks at diverse students in multiple sites, and because it examines costs and complex outcomes, it will have powerful credibility among policymakers who come to questions about higher education from different perspectives. Such an effort provides an interdisciplinary lens through which the formation of programs, curriculum strands, and even individual courses might be created or revised, informed by the critical angles which can be derived from a carefully articulated interdisciplinary framework for inquiry.

Example: At Northern Illinois University, Shevawn Eaton and colleagues form first-year experience seminars that have at their center a rich retention literature informed by sociology (what are the group characteristics of late adolescents?), anthropology (what are the cultural dynamics of late adolescents?), and psychology (what cognitive developments might we expect among late adolescents?); by self-efficacy theories; and by individual adjustment psychology. The result is a much richer course than a rote "skills seminar" might be, with attention not only to the demands of or barriers within the higher education institution, but also to the environmental "pulls" in the lives of students that might affect their ability to succeed in the university. Moreover, the faculty have deliberately articulated the theories that inform their practice, taking the seminar beyond the "survival seminar" mode to one that dynamically links practice and research to involve participants in an ongoing process of thoughtful practice and revision. A similar

program has been available at the University of Georgia for 15 years (Higbee & Dwinell, 1992).

Example: For two decades, the Commanding English program at the General College, University of Minnesota, has served as a first-year, self-contained academic immersion program for English as a Second Language (ESL) students who are recent immigrants (nearly all of whom are refugees traumatically displaced from their homes by war in Vietnam, Laos, or Somalia). The program is successful by most standard measures (students who enter the University through the program graduate at rates comparable to, and frequently superior to, their native-speaking peers). Commanding English is grounded in interdisciplinary theories of how people learn and in theories of cultural construction of identity. The program is self-consciously informed by language acquisition theory (Zamel, 1991); by Basic Writing theories and practices that show skill-and-drill programs to be ineffective (Brinton, Snow, & Wesche, 1989; Snow & Brinton, 1997; Harklau, Siegal, & Losey, 1999; Nelson, 1991; Sternglass, 1999); by Supplemental Instruction research (Arendale, 1998); by research on cultural conflicts in refugee populations from a number of sources, including the University of Minnesota Refugee Studies Center; by standard ESL research, both written and oral (Leki, 1992); and by a variety of perspectives on postsecondary transition. No single theory or body of research is, on its own, complex enough to inform successful practice among this population of developmental education students. Only when the question of ESL refugee student success is addressed from multiple theoretical perspectives is there likelihood of great success. In addition to supporting student success at the University of Minnesota, the interdisciplinary theoretical perspectives that underlie the program have been shared both locally and nationally to contribute to other programs responding to issues of language, culture, identity, and learning faced by new immigrants.

As these examples suggest, interdisciplinary theory promises to better equip us to respond to the complex situations of students. But recognizing powerful theories which, when they interpenetrate, form interdisciplinary theoretical perspectives that might drive developmental education practice, is but half the battle. The isolated developmental education practitioner most often works alone in the English department or advising center, or is the new part-timer on whom is "dumped" the algebra prep course. Most often this colleague has training in some aspect of the discipline (the Victorianist teaching developmental writing, Business Education graduate shuffled to do preparatory math), but has not had the opportunity to investigate the relevant work in developmental education and its interdisciplinary frameworks. It is such colleagues who must be brought into an expanded conversation about theory. As we embark on a new era of developmental education within new and unprecedented social conditions, we must deliberately construct a conversation that bridges our local situations and that works, as Benjamin Barber (1984) has phrased the purpose of conversation, "to our mutual benefit and to the benefit of our mutuality" (p. 118). Sustaining such a conversation that colleagues can both learn from and contribute to will mean deliberately extending our willingness to share and to build on the essential strength of our field—the multidisciplinary expertise we bring to the common task of supporting educational access for all. Sharing and building on our multidisciplinarity to construct meaningful kinds of interdisciplinarity will involve talking more with each other about the challenges we face in local sites, the theories we use to interpret those challenges, and the outcomes we achieve when we implement and revise practices from interdisciplinary perspectives.

Too often, in the past, our conferences have been merely descriptive of current practice and our journals shy of theory. It is small wonder that our practices too often replicate untheorized habit. An enriched professional conversation is needed today if widespread practice—that befuddling terrain of "developmental education" without theory—is, in the future, to be grounded in the rich possibilities that can come from making our inherent multidisciplinarity into deliberately interdisciplinary bonds, practices, and theories.

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Research in Developmental Education: What Do We Need to Know?

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Although the amount of research in the field of developmental education has expanded dramatically in the last two decades, there are many issues remaining to be explored and many questions remaining to be answered. What we presently know from the research is painted in a few broad strokes representing only the outline of a larger picture. What we have yet to discover is represented, not only by further broad strokes, but also by the pattern and the details that give meaning to that larger picture.

This paper identifies some of the more important information we already know from research in developmental education. It also attempts to describe the vast array of issues that we still need to explore in order to enhance the knowledge base of the field.

Student Characteristics and Instructional Methods

Several researchers have explored the characteristics of developmental students and determined that they are much like other students (Boylan & Saxon, 1998; Boylan, Bonham, & White, 1999; Casazza & Silverman, 1996; Hardin, 1988, 1998; and Knopp, 1996). The only thing that typifies them is that they are over-represented among the poor and that many have a past history of academic difficulty or score poorly on standardized tests. The research in the field includes few attempts to translate what we know about developmental students into specific strategies for intervention taking these characteristics into account.

A major exception to this is represented in the work of Casazza and Silverman (1996), who not only describe the characteristics of developmental students but also articulate a theoretical model for accommodating these characteristics. Roueche and Roueche (1999) also provide some descriptions of developmental students and offer general guidelines for institutional responses to meet these students' needs.

Nevertheless, more knowledge of our students' characteristics and what these characteristics mean for instruction is needed in future research. We need, for instance, to learn more about the impact of faculty attitudes on the performance of weaker students. We know, for instance, that high faculty expectations contribute to improved performance among developmental students (Higher Education Extension Service, 1992; Roueche & Roueche, 1999). But does faculty behavior such as low expectations of students or stereotyping of ethnic and economic groups have an impact on student performance? As an example, much has been said about the stigmatization of students who are placed in developmental courses (Maxwell, 1998). But to what extent do faculty attitudes and behaviors contribute to this so-called stigmatization? As Lapidat (1998) points out, "The expectations of others have a powerful impact on... students' perceptions about themselves and expectations for success" (p.77).

At the same time, we know very little about how students' attitudes and values affect their academic success. Do student attitudes toward developmental education have an impact on their performance in developmental classes? Do student perceptions of developmental instructors' attitudes influence what or how much they are willing to learn?

The issue of learning styles is also important for those working with developmental students (Bonham & Boylan, 1993; Higbee, Ginter, & Taylor, 1991). But we know very little about the learning styles that may characterize developmental students. Except for Lemire's (1998) review of the literature suggesting that developmental students tend to be more visual or "hands-on" oriented learners, we have few studies describing the learning styles of developmental students. We also have little information on the impact of cultural styles among various ethnic groups participating in developmental education.

The work of Granland (1993) suggests that some ethnic groups may profit from the use of collaborative learning techniques. We also know from Tinto's (1998) research that underprepared students in general tend to perform better in classrooms where the tools of community building and collaboration are used. But do certain types of developmental students benefit more than others from these approaches? Do female developmental students profit more or less than males from collaborative learning? Are certain ethnic minorities more or less likely to benefit from being part of a learning community than other minorities or than White students? If so, are there differences among various ethnic groups in the extent to which certain instructional strategies may be useful in improving academic performance?

Essentially, we know that there are some general characteristics that tend to typify developmental students. We also know that some instructional techniques tend to be effective with developmental students. We have much to learn, however, about which techniques are likely to benefit which students.

Program Organization and Components

Several researchers have investigated effective organizational arrangements and program components in developmental education (Boylan, Bliss, & Bonham, 1997; Maxwell, 1997; Roueche & Roueche, 1993, 1999). Roueche and Snow (1977), Roueche and Roueche (1993), and Boylan, Bliss, and Bonham (1997) provide evidence indicating that centralized delivery systems for developmental programs are more effective than decentralized programs. It is difficult to ascertain, however, if this is a measure of the effectiveness of centralization or simply a measure of the improved coordination of effort and communication among faculty and staff that results from centralization.

Furthermore, we know that the integration of developmental education into the institutional mainstream results in improved performance for developmental students (Boylan & Saxon, 1998; Kiemig, 1983; Roueche & Roueche, 1999). More research is needed, however, to identify the activities or circumstances that contribute to the institutional integration of developmental education.

The research also indicates that sound assessment and placement components appear to characterize successful developmental programs (Boylan, Bliss, & Bonham, 1997; Morante, 1986; Roueche & Roueche, 1999). We do not know, however, which assessment instruments are most accurate for developmental students or how student performance on assessment tests is influenced by student attitudes toward assessment. Furthermore, our current assessment systems emphasize cognitive rather than noncognitive measurement (Boylan, 1999). Certainly, better placement decisions can be made if counselors have more information about the noncognitive characteristics of developmental students (Dwinell & Higbee, 1990, 1991; Higbee & Dwinell, 1990a, 1990b, 1995, 1996; Higbee & Thomas, 1999). But what characteristics should be measured and what instruments should be used to measure them?

We also know that counseling has been identified as an important factor in the success of developmental students (Casazza & Silverman, 1996; Higbee, 1989; Higbee & Dwinell, 1992, 1993; Maxwell, 1997; Roueche & Roueche, 1999). However, we do not know if developmental students from various social and ethnic backgrounds are more or less likely to participate in counseling or if participation or lack thereof has more impact on some groups than others. We do not know if particular theories or approaches in counseling are effective for certain types of developmental students. We do not even know what sorts of training are appropriate for those who provide counseling to developmental students.

Similarly, the research tells us that tutor training is essential to successful tutoring for developmental students (Boylan, Bliss, & Bonham, 1997; Casazza & Silverman, 1996; Maxwell, 1997). We know little, however, about how this training can best be organized or carried out. There is little information to guide us in answering questions about the most effective content, duration, or delivery mechanism for tutor training programs.

Perhaps even more disconcerting is that there is little agreement in the field about what success may mean for developmental students and programs. Are courses successful when most students complete them in one semester with a C or better? Are they successful when students are able to pass the next credit-bearing course in that subject area? Or, are they successful only when they contribute to students' long-term retention or graduation? Are the tutoring efforts of learning assistance programs successful when students pass the courses in which they are tutored? Are they successful when they provide students with the wherewithal to attain specific educational objectives? Or are they only successful if students participating in them have attained a degree or

a credential? This lack of agreement about the desired outcomes of developmental education and the subsequent ways of measuring its success represents a major shortfall in the literature of the field. Without such agreement, it is very difficult to answer the question, "Does it work?"

Costs and Benefits of Developmental Education

In the area of costs and benefits, we know very little about what it costs to provide developmental education and what immediate and long-term benefits accrue from these costs. In general, the research indicates that the provision of developmental education does not represent a particularly large investment of higher education resources. The work of Breneman and Haarlow (1998) indicates that the total national public expenditure for remedial courses is less than 2% of the total national higher education budget. In fact, the authors conclude that "the fact that remedial education draws political fire far in excess of any reasonable view of its budgetary costs suggests that other factors are driving the criticism" (p. 20).

The cost of providing developmental education and learning assistance is probably considerably less than legislators or decision-makers believe these costs to be. However, because neither institutions nor states maintain comparable records on the costs of developmental education, we do not know the costs per student of delivering these services. Furthermore, because we have not clearly defined the benefits of these services, we also do not know whether the benefits are justified by the costs. Studies clarifying the benefits of developmental education and identifying what may reasonably be considered as "success" for developmental and learning assistance programs are definitely needed.

We do know that developmental education has its benefits. The National Study of Developmental Education (Boylan, Bliss & Bonham, 1997), for instance, suggests that students who participate in community college developmental education programs are somewhat more likely to graduate than the national average of all community college students. Research by McCabe and Day (1998) suggests that there are many unheralded societal and economic benefits to developmental education. Those who participate in developmental education are better work force participants, make a measurable positive contribution to their local economy, and are likely to be contributing citizens in the society. But research on the extent of these contributions is, unfortunately, in its infancy.

Conclusion

It is apparent that, although much has been accomplished through research on developmental education, much also remains to be accomplished through further research. The list of things that we know for certain from the research is long. The list of things that we still need to learn is substantially longer. In spite of the progress made by decades of research, we still have more questions than answers.

It is hoped that the areas for further study identified in this paper may be of benefit to those engaged in research on developmental education. Professional associations, research centers, faculty members, and graduate students are encouraged to continue to add to the research base of the field by exploring these important research questions in developmental education.

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Pedagogical Issues and New Directions

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Three assumptions underlined the discussion of pedagogical issues:

1. Students participating in developmental education programs constitute a very diverse group. No single pedagogical approach will "fit" all students.

2. Successful developmental education programs are comprehensive and multifaceted.

3. Successful programs address both cognitive and affective aspects of the learning process.

Discussion of these assumptions generated additional assertions, including that developmental education students are not necessarily very different from all students. Perhaps students participating in developmental education programs differ in preparation or prior knowledge from other students, but not necessarily in ability or "quality." Also, "cognitive" is perhaps too narrow a term to describe nonaffective aspects of learning; "intellectual" may be more applicable.

Traditionally in institutions of higher education information has been transmitted from faculty members to students through texts and lectures. New directions in pedagogy include a constructivist approach and alternative delivery systems. When using constructivism as a theoretical foundation, faculty members begin at a point that reflects the students' level of learning and encourage students to think for themselves, leading to self-discovery. Learning is no longer a matter of requiring students to "regurgitate" information provided by the instructor, who is perceived as the authority figure (Perry, 1970). Students become more involved in the learning process and engage in higher levels of thinking (Barbanel, 1987; Bloom, 1956).

Alternative delivery systems can include different instructional approaches within the classroom, such as collaborative learning, as well new formats for providing instruction, such as distance learning, Internet discussion groups, Supplemental Instruction (SI), and paired, linked, and adjunct courses. Each of these alternative teaching formats can take a variety of forms. For example, collaborative learning can take place in dyads, triads, and small groups, with or without assigned observers. Students may or may not be grouped randomly or by ability level or previous knowledge or experience. Or students may be placed into groups that enable them to complement each other's skills. An important facet of collaborative learning is that students become the teachers and take greater responsibility for their own acquisition of knowledge. Collaborative learning can promote persistence because students can assist each other in overcoming hurdles (Thomas & Higbee, 1996; 1998a). However, some faculty members believe that collaborative learning takes too much time, and that content is lost in the process. Others think that collaborative learning can be effective in some disciplines, but not in others. For a collaborative learning model to be successful, both faculty and students require training in how to facilitate and engage in the collaborative process and what is expected of participants. Furthermore, the value of collaborative learning cannot be assessed in a single class period. What works well with one group of students may not appear to work with another. Learning objectives must be established, and progress toward meeting those objectives must be measured over time.

Another ongoing pedagogical debate, particularly within the field of developmental education, is whether basic skills or learning strategies should be taught in "stand alone" courses or embedded in the regular curriculum (Dimon, 1993; Maxwell, 1998; Taraban, 1997; Utterback, 1987; Wilcox & Jensen, 2000). Some faculty members argue that there is not enough time to focus on enhancing skills while also covering the depth and breadth of content required in regular core curriculum courses, but others have demonstrated that the integrated approach need not limit content and benefits all students (Ghere, 2000; Jensen & Rush, 2000; Wambach & delMas, 1998). Many faculty members do not believe they have adequate training to teach skills and strategies. Although not a primary focus of this discussion,

this is a critical pedagogical issue to be addressed by developmental educators. This debate has led to the formulation of other formats for linking skills to content.

Supplemental Instruction (Arendale, 1998; Peled & Kim, 1995; Zaritsky, 1998) has become a proven approach for enhancing student learning and linking skill development to core curriculum courses without putting this responsibility on faculty. One of the reasons that SI is so popular as an alternative to more traditional forms of developmental education, such as mandatory pre-college level reading courses, is that it targets high-risk courses rather than students, thus eliminating the stigma associated with labeling students. For SI to be successful, it must receive both administrative and faculty support across the campus, and SI leaders must be adequately trained regarding teaching and learning strategies, as well as knowledgeable about the academic discipline.

The SI model is not necessarily appropriate for all institutions. Other approaches that have been demonstrated in different disciplines at various types of institutions during the past two decades include paired, linked, and adjunct courses (Bullock, Madden, & Harter, 1987; Commander & Smith, 1995; Dimon, 1981; Weinstein, 1995). In some cases skills courses are paired with core curriculum classes. In other instances core courses are linked in a block that forms a type of learning community, which also promotes the formation of study groups outside of class. Again, paired, linked, and adjunct courses require both faculty and administrative support, with procedures for enrollment clearly delineated in the registration process.

Modern technology allows for numerous pedagogical advancements, from Power Point presentations to enhance lectures, to teaching on computer (Brothen & Wambach, 2000; Kuehner, 1999) or on television (Hodge-Hardin, 1998; Koehler, 2000; Thomas & Higbee, 1998b) and distance learning (Illingworth, 1996). Each method has its strengths and pitfalls. Internet discussion groups, for example, can be a powerful means of encouraging collaboration if students have adequate access to the required technology.

New pedagogical approaches can meet with resistance from students and faculty alike. Some students do not think a faculty member is teaching unless he or she lectures (Brothen & Wambach, 2000). Some students, particularly some returning adult students, prefer to work independently rather than in collaborative groups, and may think that they are wasting their time. Some students have had little exposure to technology in high school, and become anxious if they are not provided with adequate training. Some faculty members believe that alternative formats undermine their authority or take time that should be devoted to teaching content. Others are comfortable lecturing, and do not feel that same level of comfort using other teaching methods. Others recognize that time and effort expended to learning new skills or adopting new pedagogies are not rewarded in the promotion and tenure process.

Effective developmental educators are open, flexible, and adaptable. They are "sensitive and responsive" (National Association for Developmental Education, 1995) to their students. They approach new strategies critically. They understand that the measure of success will vary depending upon how the evaluation is conducted and by whom. They are reflective teachers who are interested in enriching student learning, even if their behavior is not rewarded by the institution. Their primary concern is for their students.

Because developmental students are so diverse, there can be no best strategy for teaching them. They do as well as any other students when instructors use innovative teaching strategies. Developmental teachers should be knowledgeable about new, effective ways of teaching, and give their students training and practice in responding to them.

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Innovation and Expansion in the Breadth of Programs and Services

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Summary compiled by Dana Lundell

Given that students will be unequally prepared for college, we can assume that there will always be a need for developmental education in some form. Even the debates about mainstreaming developmental education still recognize the need for some kind of integrated, expanded support services such as study skills courses and learning centers to support all students. Whatever the focus—integrated services or separate programs—the fact is that work needs to continue to provide innovative and expanded versions of developmental education in the future. The breadth of programs in developmental education is far ranging, from inclusive English as a Second Language (ESL) programs to federally funded academic support and bridge programs like TRIO's Upward Bound and Talent Search programs. It is important to examine the ways that these programs presently serve students, as well as continuing to identify the best locations and configurations for these programs. A deeper consideration of the relationship of these programs to each other, and how they fit under the umbrella of developmental education, is a key issue in the future.

There are presently many new innovations in developmental education that are worth examining as models for future expansion in the field. For example, distance learning and new technologies have played a larger role in delivering education to students both off-site and in the classroom. What are we finding about the outcomes of these methods? We also continue to implement summer bridge and immersion programs (summer institutes) for minority, ESL, and international students entering college to prepare them for academic work (Nuney-Wormack, Astone, & Smodlaka, 1992; Stratton, 1998). Programs that bridge students from K-12 to college, such as Upward Bound, have also been expanded and created to prepare students early on for a transition to college. Federally-funded programs like TRIO have gained recognition for their successes in supporting low-income, minority, and first-generation college students through tutoring, Supplemental Instruction, and advising systems. Additionally, grants have been used to develop programs for nontraditional populations of students, such as women who are receiving welfare to attend college and learn skills to be placed into new jobs (e.g., through such avenues as the Student Parent Program in General College, University of Minnesota, which assists recipients of MFIP—Minnesota Family Investment Program). Other curricular reform concepts, such as the Curriculum Transformation and Disability (CTAD) workshop program at the University of Minnesota, also serve as models for creating professional development forums for faculty to transform their courses to create better access for all students, specifically those with disabilities.

Other program models are being developed and adopted by developmental education programs, such as the Freshman Seminar model (Center for The First-Year Experience and Students in Transition, University of South Carolina). Learning communities, which can be created and sustained through seminars, or the offering of clustered or packaged courses (i.e., courses in which students take the same set of classes together), are other newer models of education that have been successfully applied in developmental programs. Additionally, new partnerships have been formed between community and technical colleges to offer a wider range of courses designed to meet the needs of industries and businesses requiring specialized training. The results of these expanded programs need to be researched and analyzed carefully to determine the impact and outcomes for students. The merging of programs such as the community and technical college, and the presence of bridge programs between high schools and higher education, are examples of transformations in definitions of developmental education.

Another emerging question related to these changes is: What is "college level" work when placed within the broader context of education? What is "developmental" within this range of definitions, and who are the students served by developmental programs (Higbee, in press)? This discussion is very much at the heart of fu-

ture innovations and changes in the field at the present time. We continue to face external challenges to our work, and new approaches include discussions about mainstreaming developmental education students into a more integrated curriculum serving all students. If we are doing our jobs correctly and successfully, true innovations in the field might lead us in this direction. Yet at the present time, the reality is that there are and will always be a wide range of students entering higher education whose needs change and cannot be addressed by mainstream programs. High school education is uneven in terms of college preparation. Even with the advent of new standards and testing measures for high school students, which theoretically exist to even out their levels of preparation (or screen them out and hold them back), the problems facing educators are many in terms of continuing to meet the needs of changing demographics and nontraditional student populations. Even a small percentage of students in private, elite colleges like Harvard require the presence of a developmental English course and tutorial services. There will always be a need for some form of developmental education, and the innovations need to be initiated and developed by experts who work within the field, not shaped by those from the outside.

Additionally, there are often discrepancies in our definitions of who the "developmental" populations really are (Higbee, in press). This leads back to present work on continuing to expand and define developmental education. For example, many educational systems have experienced a shift in demographics related to immigrants and refugee students participating in higher education. English as a Second Language programs have been established to respond to the needs of these students in terms of language acquisition and acculturation at the college level. However, some of these students are "developmental" and some are not, but the distinctions have not always been clarified. What are the unique borders and barriers these students face, and how does developmental education respond—or not—to these needs? Is our current definition of developmental education too narrow in these areas, or does it need to be expanded? Which programs can serve as positive models for this consideration? As with more traditional developmental programs, the needs vary widely at the local level. A continued exploration of the range of services, integrated or separate, is needed to provide more accurate information as we assess these issues.

Standards and Certification

Another area in the discussion around program and service innovations is the implementation of standards and certification for individuals and programs of developmental education. Does this contribute to innovative and expanded programs and services in the field? What standards will be most useful in terms of sustaining these progressive initiatives, and how can we assess this? Organizations like the National Association for Developmental Education (NADE) and the College Reading and Learning Association (CRLA) can serve as focal points for evaluation, development, and implementation of standards. In this case, these organizations need to work toward demonstrating a positive relationship between standards such as certification and outcomes for students in developmental programs. What is the impact in terms of retention and graduation rates? Which services and programs contribute to these positive outcomes, and how can we draw upon these models to inform standards for programs and professionals?

Professional Development

In terms of long-term professional development, it is important to continue expanding graduate-level programs that can certify future faculty and staff with teaching and research expertise in developmental education. We can look toward existing programs for future innovations in this area, such as Appalachian State University, Grambling State University, University of Missouri-Kansas City, Southwest Texas State University, and National-Louis University. It is recommended that more places should invest their resources in creating more options for sites to attain a doctorate in developmental education. Presently, there is only one place, Grambling State University, which offers such a program at the doctoral level. If we really want to expand and sustain research in the field, we need to train doctoral students directly into the profession. Typically, most people enter developmental education through a content area or through work in support services. This certainly provides necessary training and background for programs and services, but the existence of graduate students with these formal credentials further legitimizes the work of developmental education as a field. This creates an important history as well when we can offer sites for this sustained focus on developmental education. This, in conjunction with the ongoing innovations in opportunities for professional development, will provide an important legacy

for establishing long-term professionals invested in the goals and outcomes of developmental education.

Recommendations

Ultimately, the work to expand programs and provide innovative services in the future should result from a strong focus on the needs and expectations of students and their multiple educational contexts. Future changes need to come as a result of their needs and not from an external push related to false public perceptions of how these programs should function. We need to inform our work with theory and research relevant to our models for success, as well as learn to be flexible and attentive to current politics and trends affecting developmental education. The best practices and models in the field need to be documented and disseminated widely through national organizations and locally by administrators.

To continue innovations and expansions in developmental education that most positively benefit all students, the following recommendations must be considered:

1. Place an awareness of changing student demographics and needs at the forefront of innovations in programs and services.

2. Promote certification as a means of professionalizing the field of developmental education.

3. Identify, validate, and disseminate best practices and program models, which should be research-based and reflective of collaborations between two- and four-year institutions.

4. Address the professional development needs of many part-time and adjunct staff, many of whom may not have the opportunity to attend professional conferences, yet they teach a large majority of classes and provide services.

5. Train and mentor teachers to implement research, and reward them accordingly for these activities.

6. Since a large percentage of students continue to enter the work force directly through technical training programs, it is important to work with industry to provide this training and merge this with developmental education programs.

7. Promote a focus on technology and access, with an emphasis on what is working. We need to continue it because it is good, not just because it is there.

8. Continue to develop graduate-level programs and professional development for future staff and faculty in developmental education.

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Technology and the "Knowledge Age"

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As we sit here in the last few months of the last year of the last decade of the last century of this millennium, we ruminate about developmental education. Thinking back on texts over the last 25 years that have made a difference in our thinking about technology (Christ, 1982; Drucker, 1994; Negroponte, 1995; Papert, 1993; Taylor, 1980; Toffler, 1980); about reading (Barr, Kamil, Mosenthal, & Pearson, 1991; Deford, Lyons, & Pinnell, 1991; Meyer, 1975; Pearson, Barr, Kamil, & Mosenthal, 1984; Rumelhart, 1985); about developmental education (Flippo & Caverly, 2000; Maxwell, 1979; Pauk, 1984); about cognition (Hostadter, 1985; Spiro, Coulson, Feltovich, & Anderson, 1994; Vygotsky, 1978); and recently about brain research (Damasio, 1994), we consider where developmental education has been in the last millennium and where it should go in the next.

Education (and more specifically developmental education) has evolved as the result of technology. Beginning with the Hunting and Gathering Age, through the Agrarian Age, and then into the Industrial Age, expert elders taught and developed their apprentices using oral communication, such as storytelling and recitation. With the invention of technologies like writing 5,000 years ago and the printing press 500 years ago, these elders were able to use these technologies to collect and organize data bits of their knowledge and convert it into printed information, making it available to growing numbers of apprentices who were the emerging literate. Thus basic education shifted as a result of technology toward teaching the novice how to develop knowledge from information—knowledge development resulting from thinking while reading, from debating what has been read, from coming to group understanding, and from expressing individual understanding through speaking and writing.

Today's elders have lived through the technology-generated information explosion that most label the Information Age. We prefer Drucker's (1994) term, the Knowledge Age. To be successful, Knowledge Age workers must learn to convert a mass of information into usable knowledge. They need to be able to critically gather information from a variety of sources; organize, arrange, and integrate that information with information others on their team provide to collaboratively create a consensus knowledge; and then succinctly present this knowledge to superiors, clients, or the public at large (Drucker, 1994; Levin, 1994). Thus the Knowledge Age challenges developmental educators to prepare students to meet a rising cultural standard of literacy in which students must convert graphic symbols to knowledge, manipulate numbers to make sense of the world, demonstrate their knowledge through tests and cogently written texts, and organize their time to accomplish these and other activities. Although technology has created the challenge of dealing with copious information, technology has also given us tools that help us assist students in developing strategies to make sense of it. How have we as developmental educators approached this new challenge and taken advantage of these technological tools?

At the end of this millenium, the majority of developmental educators and students do not yet have access to the Internet (National Center for Educational Statistics, 1999; U.S. Department of Commerce, 1999). This is changing rapidly as "e-commerce" is driving hardware manufacturers to provide cheap, internet-ready "appliances" that allow everyone access, much like the video cassette recorder has provided video access to almost every classroom, lab, and household. Even with the availability of hardware, monthly service charges for e-mail and Internet access can still be a prohibitive cost. Once again, advertising is providing free access. So, for those developmental educators with access, what are they doing with it?

Common to those who use technology in developmental education classrooms are computer programs built on an Industrial Age, assembly line, educational model. In these types of programs, students are assessed as to the level of their skill, placed at an appropriate level of Computer Assisted Instruction (CAI), and then passed

on to new levels when a computer-based test indicates they are ready to leave production and move on to application. These models typically represent behaviorist learning theory, which holds that given an appropriate stimulus with a given amount of reinforcement, students will produce the appropriate response. While necessary, it is not sufficient. Through this educational model, students often only reach simple levels of knowledge development (Spiro, Coulson, Feltovich, & Anderson, 1994) marked by the ability to recall and apply information in limited contexts, but not the ability to apply complex knowledge in multiple contexts or develop expertise. That is, when using technology as a tutor (Taylor, 1980), only simple levels of knowledge are created. However, when technology is used as a tool, particularly from a social constructivist, instructional perspective (Vygotsky, 1978), there is a greater opportunity for the development of complex levels of knowledge. Moreover, using technology as a tutee, through creating interactive, instructional materials for other students, strengthens these complex levels of knowledge, leading students toward expertise (Caverly, Orlando, & Mullen, 2000; Caverly & Peterson, 2000; Henry, 1998).

To prepare students for the Knowledge Age workplace, what is needed is a reconceptualization of technology in developmental education, one that leads developmental students beyond simple levels of knowledge. This can be accomplished by building upon what we know about how adults learn (Knowles, 1970; Stein, 1998), using technology to support instruction rather than supplant it, and by accepting the great variability among our students in their level of expertise (Cockrell, Cockrell, & Harris, 1998).

A beginning to this process is GAP (Caverly, 1998), which will help revitalize developmental education programs to fit these new demands. That is, teaching students how to Gather information from a variety of sources ranging from their prior knowledge to information from textbooks, tradebooks, professors, laboratories, the Internet, peers, and their life experiences as they attempt to satisfy a variety of task demands. Then teaching students how to Arrange that information to fit a given task demand, as well as how to rearrange the same information to fit any of several other task demands, thus creating complex knowledge. Finally, teaching students how to Present that knowledge to others through writing, multimedia, and hypermedia (the tools of the Knowledge Age) as they confirm their understanding via feedback from a variety of audiences, learning by doing (Brookfield, 1997). Teaching students how to bridge the gap between information and knowledge will prepare them not only to survive, but to succeed in their futures.

This reconceptualization must take place as the developmental education train is continuing down the track. To accomplish it, we as leaders in the field must evaluate how we provide faculty development for our colleagues. Many developmental educators come to our field indirectly—well-trained in their content area, but with little knowledge about teaching developmental students in general (Boylan, 1996), or teaching with technology specifically. Most are assigned large teaching loads with little or no time for in-service training. One solution might be a certification process (much the same as we certify tutors) through which we certify developmental educators at different levels of technology expertise. Through in-service faculty development we can provide expanded knowledge of constructivist learning theory and technology curriculum integration. Note, we emphasize the concept "faculty development" rather than "in-service training." Here, sound instructional practice is applied encouraging independence from the trainer, experts providing sound faculty development to the developmental educators much as developmental educators provide for their students.

As we move into this millennium, we as developmental educators need to reconsider our instructional models; the role of technology within these models; how we develop students to create knowledge, not just process information; and how we develop developmental educators. This can be accomplished through a collective effort of leaders, practitioners, and students helping developmental education grow to meet the demands of the next millennium.

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Bridging the Gap: High School to College Matriculation

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Summary compiled by Jeanne Higbee

What makes for a successful first year for college students? Should the focus of developmental education be working with the high schools, working with students once they enter postsecondary institutions, or both? Are there systematic ways to engage in conversations between developmental education programs and high school faculty and staff? These were among the questions posed to launch this discussion. Meanwhile, two academic disciplines, mathematics and English composition, emerged as primary areas of concern in "bridging the gap."

Mathematics

In many states the minimum mathematics requirement for high school graduation remains two years. In others the requirement has recently been expanded to three years, but students who plan to attend college must also consider what courses they take to meet the three-year requirement. Even when completing three or four years of high school mathematics, a gap may be created because of the time lag between when the last course is taken and college matriculation. For example, this may be a problem for students who begin high school algebra in the eighth grade or for students in schools with block scheduling who can complete four units of math in four semesters. (It was noted that similar problems arise in the study of foreign language.) Students who do not pursue higher education immediately after high school graduation are also victims of this time lag, as are college students who procrastinate taking mathematics. The University of Georgia's Division of Academic Assistance has recently instituted a course titled "Preparation for College Algebra" for institutional credit (i.e., not graduation credit) only. Students who find themselves "over their heads" in their first college mathematics course can change sections to a course that will prepare them to be successful the following semester, rather than trying to start over where they left off, still "lost" (Higbee, Dwinell, & Thomas, in press).

Students may resist or feel insulted by their collegiate math placements. At some institutions placement is mandatory, while at others it serves as a recommendation (Warner, Duranczyk, & Richards, 2000). Math placements may be based on many different factors, including: (a) math history (e.g., courses taken and grades earned in high school math); (b) scores on standardized admissions tests; (c) state-mandated placement tests; (d) institutional placement tests; or (e) any combination of the above. Problems arise not only when students take placement tests after an extended period without mathematics instruction or review, but also when required to take tests without the use of calculators, particularly graphing calculators, after relying heavily on calculators to perform basic mathematical functions in high school. Depending on the college's approach, some students are disadvantaged because of dependence on calculators or computer-assisted mathematics instruction in high school, while others are advantaged (Penglase & Arnold, 1996; Testone, 1998). This problem requires improved communication between high school and college math programs.

Another concern is high school students' readiness to take advanced mathematics courses. Are 16 year olds ready for calculus? What do we know about cognitive readiness for advanced math? This is an area that merits further research and dissemination in high schools and developmental math programs. The ability to be successful in math is critical to any discussion of bridging the gap because tracking in high school and choice of major in college can be directly influenced by what is perceived as students' math aptitude.

Writing

Composition is the other academic area that triggers considerable concern related to bridging the gap. Explorations of high school and college curricula in some parts of the country seem to indicate that there are fewer

discrepancies in expectations than anticipated. In several states writing proficiency testing occurs at both the high school and college levels to assure that students are not graduating without mastering basic skills.

An important issue for developmental educators is English placement. Multiple choice examinations cannot measure writing proficiency, but writing samples are costly to administer and score. Improved articulation between high schools and colleges, especially in states that already have mandatory high school testing programs, might ease the transition and make it possible to eliminate an additional level of testing.

Vocational Tracking

Some students are not adequately prepared for postsecondary education because of the vocational track they pursued in high school. Some state educational systems are working to eliminate this problem by encouraging greater overlap among tracks, especially in math and communication skills, because of the demands of a technological society. However, at the present time there are students graduating from high school who do not comprehend fully the ramifications of selecting a non-college placement track, nor do some parents recognize that their children will face limited options in the future because of vocational tracking. Some families are unfairly disadvantaged because parents do not understand the system or are unaware of its implications. In addition, parents may not know how to advocate for their children within the educational system. These problems are particularly prominent among first-generation high school and college students and recent immigrants, and tend to affect students of color disproportionately.

For developmental educators, serving students who are underprepared due to tracking generates a whole new set of questions regarding responsibility for communication with high schools, parents, and students. It also raises issues related to admissions and maintaining standards. Similar questions and issues arise when serving English as a Second Language (ESL) students. Services such as the Commanding English Program in the General College of the University of Minnesota, the Language Institute at National-Louis University (Kim, 1997), and collaborative efforts between the American Language Program and the Division of Academic Assistance at the University of Georgia (Burrell & Kim, 1998; Higbee, Dwinell, & Thomas, in press) demonstrate that it is possible for developmental education programs, whether at the community college or the research university, to provide the learning assistance necessary to enable nonnative speakers to be successful (Sparks, 1995).

Programs to Bridge the Gap

There are programs that have proven successful in assisting students to bridge the gap between high school and college. Programs such as Upward Bound, learning communities (Carter & Silker, 1997; Cross, 1998; Romanoff, 2000), and freshman-year experience programs (Deppe & Davenport, 1996; Sanford, 1998) have proven track records. Developmental educators must continue to conduct research to determine what works and then expand on these programs and adapt them to meet the needs of different populations. Some of these programs traditionally have served relatively few students because they are expensive due to low student-to-teacher ratios. On the one hand, educators should attempt to find means to lower costs; on the other hand, when taking into account the success of such programs, educators may need to rethink how they define cost effectiveness and consider long-term goals as opposed to short-term expense. Retaining students who are ultimately prepared to be more productive members of society is a worthwhile investment.

Institutional fit is also an issue. For example, it is often difficult to convince community college students to participate in enrichment programs such as freshman-year experience courses. Other demands on the time of student parents, working students, adult learners, and part-time students are likely to make participation a low priority. Developmental educators need to explore creative approaches to bridge the gap from high school to the community college, and also from the community college to the four-year institution.

Just as there are factors in bridging the gap over which developmental educators have no control, it is imperative to understand that high schools cannot be held responsible for students' lack of preparation. Research indicates the importance of nutrition, sleep, exercise, attendance, and other behaviors that are related to academic achievement. Nothing is accomplished by attempting to determine blame for students' inadequate preparation for college. Developmental educators' energy must be devoted to providing assistance and support.

Recommendations

1. Explore what is working at both the high school and postsecondary levels. Adapt and expand upon successful programs. Take better advantage of programs that already exist, such as first-year experience courses.

2. Establish channels of communication between levels of educational institutions. Exchanges of information must go both ways. Avoid scapegoating. Never assume that shifting the problem down fixes it.

3. Examine exposure versus real readiness. This is both a curricular issue and an assessment issue. Wise assessments are performance based.

4. Consider different models for different situations. Look for appropriate solutions for specific populations and types of institutions, making best possible use of available resources.

5. Use the resources of research universities to assist in bridging the community college gap. Community college personnel are seldom rewarded for research activities. Develop partnerships to conduct research.

6. Apply cognitive learning theory to student development. Be realistic about the amount of time students need to develop skills. Avoid strategies that assume a "quick fix."

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Enhancing Student Access and Retention

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The goals of developmental education include promoting educational opportunity through efforts that enhance both access and retention. Although the measures taken and the issues related to access and retention may overlap, they are not synonymous and must be addressed separately. Defining access is more complicated than it might appear. Traditionally, access has been viewed as opening the door to postsecondary education. With the proliferation of public community colleges and technical institutions in many states, some educators and legislators alike have assumed that the problem of access has been addressed because relatively low-cost programs are available to anyone with a high school diploma or its equivalent. However, numerous other issues related to access are overlooked.

Factors related to access to postsecondary education include proximity, financial considerations, the availability of child care, and testing and placement policies. A prospective student may meet admissions criteria and may have the academic ability to be successful, but may not be able to pursue postsecondary education due to distance to the closest institution, lack of transportation, inability to pay, loss of potential income, family commitments, or other obstacles. Barriers such as these may be exacerbated by testing and placement policies that require students to complete what are considered precollege, noncredit courses in order to eventually pursue a degree. When faced with the possibility of spending up to a year attending and paying for courses that are considered "remedial," it is understandable that some prospective students consider their access denied.

Another critical question in any discussion of access is "access to what?" There is growing concern that socio-economically disadvantaged students, for example, may have access to local two-year institutions, but that there may not be equal access to four-year colleges and universities. In several states developmental education programs in public institutions are now restricted to two-year institutions; in these states developmental education has been eliminated from research universities, thus further limiting access to those institutions. Legislators have decided that underprepared students have no place in four-year institutions. One of the problems with this position is that a student who is gifted in one discipline may require academic assistance in another. Is it appropriate to deny the admission of a talented musician, for example, to the institution with the strongest music program because the student is considered underprepared in another area, such as English composition? Of perhaps greatest concern may be whether policies such as these result in the under-representation of protected groups, such as students of color, in public four-year colleges and universities, especially when the cause of these students' inadequate preparation may be institutionalized racism, even if unintended.

Partnerships between elementary, middle, and secondary schools and postsecondary institutions can enhance both access and retention (American Association for Higher Education, 1999; Tompkins, 1999; Wiseman, 1999). Projects that promote seamless educational programs for students are rare. Further communication is needed between officials at all levels of public education. Postsecondary educators cannot approach partnerships with the attitude that their role is to "fix" problems in the K-12 system. Educators can also become more involved in other opportunities for partnerships, including workplace literacy projects (e.g., Longman, Atkinson, Miholic, & Simpson, 1999) and educational programs provided by the military (e.g., Griffith, 1999).

Retention

Just as the term access requires a more thorough definition, retention may be measured in so many different ways that an accurate definition is elusive. There are numerous issues that surround perceptions of academic success, which is often equated with retention. Graduation rates are perhaps the most commonly accepted measure of retention, but they generally fail to take into ac-

count other factors such as: (a) students who transfer to other institutions, including students who ultimately earn degrees elsewhere; (b) students who "stop out" and reenter later; (c) students who leave due to factors over which the institution has no control (e.g., personal reasons such as illness, financial problems); (d) students for whom traditional higher education is not the most productive form of learning; and (e) students who achieve alternative forms of success without graduating. Is a student who drops out to perform an award-winning role in theater or film, for example, unsuccessful? Graduation rates of collegiate athletes are commonly criticized without considering those student athletes who choose to pursue professional careers. What is needed is an inclusive definition of retention that fosters cooperation among institutions, at least within public systems of higher education, to account for transfers. Furthermore, measures of retention must be longitudinal, allowing for stopping out and reentering. Some policies developed to encourage retention, such as placement and exit testing and sophomore or junior year proficiency testing (e.g., in reading and writing) can have the opposite effect.

Inconsistencies in the definition and measurement of retention may be responsible for why retention statistics often appear so low. However, another problem is that retention programs are often aimed only at the students at the two ends of the continuum, high-risk students and honors students. Interventions such as Supplemental Instruction that target high-risk courses rather than students can be effective in enhancing retention among all students. In his talent development model, Alexander Astin (1985) encourages an approach that promotes the academic growth of each student, regardless of where he or she starts. What is important is what each individual student achieves. When viewed from this perspective, graduation is not the ultimate measure of success.

Good instruction promotes retention, as do programs that provide a supportive learning environment, such as learning communities. Educational climate, both within and outside the classroom, can have a significant impact on student satisfaction and retention. Developmental education can play a critical role in student retention, but developmental educators must be in agreement regarding the scope and mission of our profession. The National Association for Developmental Education's (NADE) definition refers to providing academic assistance and learning support for all postsecondary learners. However, many developmental education practitioners and programs have not embraced this definition and continue to focus their efforts only on students considered at risk. One of the current problems of developmental education as a profession is a bifurcated identity. Although the topic of this session was access and retention, definition issues brought the discussion back to not only the definition of developmental education, but also the terminology. Can the profession flourish when its name is embedded in "at risk" rhetoric?

Recommendations

1. Develop definitions of access and retention that will meet with the approval of legislators, administrators, and developmental educators and at the same time take into account the needs of individual students.

2. Determine the role of developmental education in enhancing access and retention. To accomplish this goal may first require a redefinition and perhaps a renaming of developmental education.

3. Explore other lenses for viewing access and retention, including critical pedagogy.

4. Conduct and reward research related to access and retention. Create new approaches that are theoretically sound and reflect research findings regarding best practices.

5. Provide professional development opportunities to explore strengthening the profession of developmental education and responding to the revolving door of developmental education faculty. How can the profession hope to achieve its goals when turnover occurs so frequently? Retention of developmental education faculty and staff is a separate issue that must be addressed.

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Collaborations and Partnerships: Within and Between Disciplines, Programs, and Institutions

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The key questions in this group focused on two basic issues: (a) Is collaboration important?, and (b) Why is it important to developmental education? A primary assumption is generally held that collaboration is a positive framework for educators. This standpoint has also been applied to research, teaching, and practice in developmental education. Within the next ten years, the issue of creating partnerships and coalitions is projected to increase as a primary educational and social agenda, specifically as national demographics have changed and as our society requires an increasingly educated, expanded, and specialized work force (Carnoy, 1997). It is within this changing social context that we must begin to consider the conditions and circumstances in which collaboration will be important for developmental educators.

Relating this trend to the future of developmental education, arguments call for increased collaborations and partnerships both within and across institutions as colleges and universities are held accountable for improving graduation rates, especially for minority and nontraditional students. Debates about the role of developmental education within colleges remain under the intense scrutiny of the past as decisions are made about what types of programs will exist, where they will be situated in higher education, and what funding will be extended to support these programs. We need to focus more closely on collaborations specifically addressing issues of accountability for student retention that continue to be placed most squarely upon developmental education programs. In taking on this question, we must look in several directions for inspiration, innovation, and support. This includes a renewed focus on our local programs (implementing evaluations, research, and new collaborations); an examination of national models and resources (national research centers, professional training programs, learning assistance centers, and successful two- and four-year models); and an expanded focus on international strategies for collaboration (Lemelin, 1998).

One issue arising recently related to collaborations around accountability includes questions about mainstreaming developmental education students and related programs (e.g., support services, fiscal resources, course offerings) into the center of primary institutions. This includes future partnerships across disciplines such as mathematics, science, English, education, and psychology departments. The concept of mainstreaming offers possible alternatives to traditional developmental education strategies that often sideline students, minimize resources, and create temporal spaces and unstable circumstances for these programs. It is essential, in the future of our work, to consider the collaborations and partnerships that will be necessary to forge these new relationships and configurations of developmental education within primary institutions of all kinds and sizes. As resources are merged or expanded to serve all students, in the progressive definitions of "developmental" education, issues of accountability can be distributed and applied more broadly to all students—not just a few who remain sidelined and compartmentalized in these programs with limited definitions of student development. Resource collaboration and partnerships like this would benefit all involved, but it is the responsibility of developmental educators to collaborate with others to demonstrate the viability, logic, and success of this alternative.

Another aspect of partnerships is creating visibility for developmental education across campuses, such as linking study strategies instruction to content areas (Blinn & Sisco, 1996; Byrd & Carter, 1997; Commander, Callahan, Stratton, & Smith, 1997; Resnick, 1993; Simon, Barnett, Noble, Sweeney, & Thom, 1993) or bringing workshops to residence halls. These examples also raise crucial questions about the quality and origin of such collaborations. Where does the invitation to collaborate start? Does who issues the invitation to do so make a difference in the success of the collaboration? It is important to note that frequently it is external pressure that drives developmental education partnerships.

For example, many developmental education units need to have strategies for making themselves known, especially in terms of identifying resources, demonstrating and evaluating success, or challenging legislation unfavorable to these programs. This type of visibility is important to foster in order to represent developmental education as a resource. As questions of accountability arise, program leaders can be poised in a proactive position as collaborators in future research on solutions to these issues.

This leads to the question of which kinds of collaborations, if any, have been successful or unsuccessful? How has this been done, or what went wrong? Some positive examples of collaboration in developmental education have included faculty forums, learning communities (Cross, 1998; Tinto, 1995), and collaborations between student affairs and academic affairs. Active questions can be posed to help stimulate these collaborations such as: How do you sustain collaboration efforts? What about incentives? What about resources like time? What about governance? Frequently there is a general knowledge, or even formal list, of who is actively involved in campus collaboration efforts—people who will cooperate, help and mentor students, and support partnership efforts. Sometimes collaboration simply means sharing these resources. As these collaborations are developed, we also need to look specifically at the programs in place that have a strong track record of leadership in creating partnerships for the purpose of better serving developmental and non-traditional students such as Supplemental Instruction (Arendale, 1998; Martin & Arendale, 1993; Martin, Blanc, & DeBuhr, 1983), Freshman-Year Experience Programs (Sanford, 1998), and K-12 partnerships and bridge programs like TRIO's Upward Bound. We need to take a proactive stance by providing leadership directly from these programs and their diverse models for providing developmental education.

Future Questions

Overall key issues for future research and investigation in the area of collaboration and partnerships in the field included:

1. Why collaborate? What are the motivations, needs, and rewards?

2. How can we sustain this once it is initiated?

3. What models exist (research, documentation, existing programs)?

4. What resources are necessary?

Recommendations

In order to foster continued successful collaborations and partnerships in developmental education, the following recommendations emerged:

1. Review the literature and research on successful collaborations seeking progressive models that can be expanded and replicated locally, including an exploration of literature in other related disciplines such as multicultural education, cooperative learning, and so on.

2. Consider students as primary collaborators and valuable resources in conducting research, evaluating, and creating new programs; they can establish a useful "insider's" perspective.

3. Revise reward systems and develop more specific criteria for collaborative work activities (e.g., tenure criteria, monetary rewards and promotion incentives, publication recognition for co-authors, time release, changed governance).

4. Reach and prepare new faculty and graduate students through professional development activities such as forums, workshops, and certification programs that teach them how to collaborate and why it is valuable and necessary for the future of the field.

5. Create incentive grants to initiate collaborative work, and provide a way to sustain, evaluate, and share the results of these efforts once in place.

6. Create interdisciplinary task forces examining innovative local and national partnerships, focusing on developing procedures, models, and resources for future collaborations.

7. Market the need for this—why is it economically beneficial and socially pertinent, to collaborate and forge developmental education partnerships (e.g, graduation rates, minority retention, why developmental education benefits all students and society)?

8. Be open to collaboration and accept present opportunities, even in the face of adversity or resistance.

9. Stay flexible and communicate well and often recognizing that positive collaboration processes need to be taught and modeled.

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Predicting Success: Student Motivation and Other Factors

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In postsecondary education, definitions of student "success" vary widely. Multiple factors influence the development of these constructs, such as graduation rates and institutional accountability, individual student motivation and behavior (Douvan & Kay, 1964), and public policy and legislation. Even within developmental education, a range of intellectual and social dimensions are used to describe and define success. This also varies greatly among students, faculty, and administrators. Some themes emerged in this session outlining these variables and challenging limited conceptions of how we can predict success for both students and programs in higher education.

Frequently, the notion of "success" is used to measure and quantify aspects of student behavior for the purposes of placement within institutions. This translates into the need for curriculum development to address changing concepts about how to create "successful" students. Freshman seminars are one such transformative model, but research has not yet entirely confirmed the outcomes in terms of their effect on student motivation. Institutional measurements such as retention and graduation rates are most often used to determine the success of students within these programs. In developmental education, these markers—or a lack of having achieved them—is predominantly the defining factor. One of the problems in developmental education with its history of terms like "remediation" is that students are traditionally viewed as "not successful" or "underprepared" when they enter higher education.

These methods for determining student placement into higher education programs remain a point of stigma in the field as they create an institutional framework that describes students from the outside as opposed to the inside. Obviously we will always be held accountable to these institutional and intellectual definitions, which have historically formed in response to public policy measures and traditional intellectual goals to create a "better work force" and "informed voters" in society. Economic and civic responsibilities certainly form strong and useful definitions to which educators respond with curricular goals and programmatic mission statements. This administrative response toward creating student "success" is still perhaps the strongest definitional force in education, often responding to legislative and public demands and perceptions about the role of higher education in society.

However, one key challenge posed to this definition by developmental education programs and their students is the notion of diversity in population and open access institutions like community colleges. Cultural models and traditional educational goals, as well as access to dominant and prior foundations for achieving success in this society, are inherently challenged by increasing nontraditional college populations such as immigrants, refugees, and students of color. Although many of the traditional models and predictors for success remain an important goal for both these students and their teachers, there is perhaps another model for "success" that needs to be formulated. Often the variables used to predict success do not accurately predict the outcomes for students from nontraditional backgrounds whose prior education and potential for future success in higher education do not reflect standard measures. We know that placement testing is not the answer in making these predictions for success, but what other means can be used? If these popular definitions for "success" do not entirely acknowledge the needs and backgrounds of many students entering higher education, what other standpoints should we acknowledge and develop related to student success?

Social integration and academic acculturation are models that have some potential value in describing other important goals in defining and predicting student success. In addition to economic and civic definitions of success and resulting educational outcomes, a goal that addresses social development and an increased awareness of diverse cultural contexts in society is an important standpoint that values student needs beyond the parameters of the institution. Students will need a variety of tools to become successful within and across these

contexts as social demographics shift. Also, in order to be successful both in and out of school, students need to learn explicitly about the goals and expectations of both academic (Green, 1981; Higbee & Dwinell, 1997) and other communities in which they participate such as work and family life. What are the skills and foundations necessary for developing more successful students in a diverse and democratic society, consisting of multiple contexts and values? How is "success" measured or predicted within this framework and then translated into educational practice? These questions continue to emerge and should be used to guide future work and also inform programmatic changes.

We need to reexamine research to link theories across disciplines to answer some of these questions. One area of research that is needed to develop student-based definitions of success can come from an application of student development theory (Astin, 1985; Chickering, 1969; Chickering & Reisser, 1993; Higbee, 1988, 1995, 1996; Higbee & Dwinell, 1990, 1992) toward gaining a better understanding of student motivation. Reasons for attending college and the impact of the college environment in student development (Astin, 1985; Chickering, 1981; Pascarella & Terenzini, 1991; Sanford, 1964) are believed to be powerful factors influencing success in college. Also, measures of academic autonomy have been used to predict success in academic situations (Dwinell & Higbee, 1990a, 1990b; Thomas & Higbee, 2000; Winston, Miller, & Prince, 1987). However, it remains hard to measure this, and thoughtfully constructed research founded in developmental theory can offer some insights. If we can gain an understanding of what factors contribute to student motivation to succeed in college, we can better form programs and shape curricula that effectively responds to their needs.

From these standpoints, this session reviewed past definitions and challenged current concepts of student success. From this, the following recommendations were formed to outline some of the these issues for future research and theory. Overall, definitions need to reflect the varying standpoints of students, faculty, and administrators in addition to those impacting public opinion and legislation in higher education.

Recommendations

1. The role of four-year institutions is key in stimulating research and program evaluation measures addressing student success, both in terms of predictions and definitions used to inform policy.

2. Research is needed on links between student motivation and developmental theory, particularly revealing the implications of these findings as they relate to predicting success in college for a diverse range of students.

3. More work needs to be done to demonstrate why standardized placement testing does not work and to recommend and devise better predictors for student success in college.

4. We need to expand definitions and constructs of "success" to integrate both intellectual and social dimensions of this notion, including a focus on non-traditional populations and cultural issues impacting their transitions into higher education through developmental programs.

5. Research also needs to include a focus on "motivating environments" incorporating the experiences of faculty and students, such as the impact of institutional policies on students, faculty observations in practice, and the effects of the physical environments and cultural foundations of the classroom.

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Assessment and Outcomes

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Summary compiled by Michael O'Hear

Not long ago, a university division that wanted to recruit English as a Second Language (ESL) students regardless of their level of preparedness or English proficiency told a story about an incident involving an ESL transfer student. The student was three credit hours away from graduation when forced to take a basic English course by the institution's "insensitive" ESL program. The student was supposedly saved from this indignity only at the insistence of the division's dean. The university community was up in arms and ready to listen to a proposal to dismantle the ESL program. The problem with this story is that it was not true. The student existed, but his potential problem did not: he had been exempted from the ESL program when he was admitted. A subsequent review of the ESL program showed that it met and exceeded university expectations. The program was saved.

The purpose of this story is to illustrate the powerful effect of rumors and innuendo, and to demonstrate the need to thoroughly evaluate our efforts in learning assistance. Had the documentation of program effectiveness not been available, rumor could have led to the termination of the ESL program. Had program administrators waited until evaluative data were requested to assess the success of the program, there would have been insufficient time to act. This situation is analogous to the plight of developmental education programs around the country that have been attacked by constituencies armed with inaccurate or insufficient information. Continuous collection and dissemination of assessment data is clearly needed.

The first step in effective assessment is determining goals and objectives for a program in order to measure outcomes. This is not an easy process. To say that success consists of achieving passing grades in program courses is something relatively simple to measure, but higher level administrators would probably not be satisfied with this limited data. They are more likely to want proof that the program has made some difference in integration of students within the regular curriculum. This outcome can be measured, but intervening variables (e.g., instructor, time of class, other courses taken simultaneously, or personal factors external to the learning process) may stimulate or hinder student success.

Retention is a popular measure, but the longer the retention period, the larger the number of potential intervening variables, until it becomes impossible to attribute retention to a single intervention. Too many other factors may combine with, or overwhelm, the effects of learning assistance. The same problem arises when using grade point average (GPA) as a measure of program effectiveness.

Another serious problem with assessment is the demand for studies that follow a scientific or pseudo-scientific method when the scientific paradigm does not always apply in developmental education and learning support. We can not deny "treatments" to students so that we can provide control groups. Likewise, seldom can we assure that students have homogeneous backgrounds or similar motivation. In short, we have the need to develop a new paradigm to fit our unique situation. If we can do this, we will be well on our way to attaining research respectability in the academic environment.

Still another problem in assessment is the need for money. Data collection and analysis are costly in terms of time and personnel as well. Whether internal or external, funding is needed for thorough, ongoing research.

Related to the funding question is the uncertainty regarding the payoffs for assessment. If a program exceeds expectations, will it get more money, better space, increased staffing, a position of honor and respect? This is a particularly troublesome question because all areas of academe are asked to put together numerous reports that never see the light of day and have no influence unless the results are negative. Chastisement is certain; support is not. Indeed, the atmosphere surrounding assessment is more often one of distrust, not of helpful-

ness. In fact, major accrediting bodies have frequently overlooked developmental education and learning assistance in their zeal to measure certain elements of institutional prestige.

Our research also suffers from a mindset on the part of many of those who sit in judgment in the upper levels of higher education administration. Some are not disposed to accept the idea that we can succeed, while others fear that our research may cost them more money to implement new or expanded programs and services. Solid research will not necessarily overcome philosophical barriers. When decision-makers act on political imperatives rather than on the evidence before them, the quantity or quality of assessment data is irrelevant.

Many program directors are afraid of evaluation. Because they are not in touch with what is happening in their programs, they have a sense that assessment can only have negative effects. Not only may these fears be unfounded, but these programs can not afford this lack of confidence on the part of their administrators. There is no time to delay. Students, parents, legislators, and the public are demanding evidence of success, and it must be supplied. Administrators must be held accountable.

Assessment works best when it is part of a campus-wide effort rather than a demand placed on developmental educators and learning assistance personnel only. It is difficult to understand and justify a system in which developmental education is the only area seen as needing evaluation, while other academic departments and administrative units are not subject to the same level of examination.

A further difficulty with much of the assessment undertaken in higher education involves the variety of purposes for this function. For faculty members, assessment may be perceived as a vehicle for career advancement (i.e., promotion and tenure), not as a way to improve instructional quality. For administrators, the purpose of assessment may be viewed as a means of program justification, not as a measure of how to best serve students.

Our programs tend to be exposed to public scrutiny more often than other departments and programs within our institutions. This situation is of great concern for developmental education. No one is out there to defend us, and as the perceived "new kids on the block," we are in a position to need support. While we may keep the students who fill colleagues' classes, these same colleagues frequently see us as enemies in the quest for resources or institutional status. Politicians, like the mayor of New York, overlook the good accomplished by the city's colleges and universities and make developmental education the whipping boy when scapegoats are needed. It does not help that on the state level we compete for resources with elementary, middle, and secondary schools, which are much better organized than we are.

There is also the problem that higher level administrators may not be aware of developmental educators' success stories. As was the case in the situation presented at the beginning of this summary, they do not know a lie from the truth. Assessment offers us the one way to emphasize realities, even though there is the chance that no one will listen.

We are in need of national demonstration sites where we can see best practices in action. We could use these sites as models for our outcomes and assessments. Such touchstones could serve as the basis for successful and respected assessment because of their national recognition, and could also serve as training sites. Widely recognized certification procedures could create the conditions to make such models real.

Institutional Fit: Mission and Structure of Programs Within Different Types of Institutions

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Jill Trites, Recorder

Summary compiled by Dana Lundell

This session focused on the variety of ways that developmental education activities are conceived and structured within institutions, including endeavors by public and private organizations. Recently, there has been a rise in advertising for the services of businesses such as Kaplan and Sylvan Learning Centers that offer private instruction to students. Additionally, other forms of contracting for services, the use of student vouchers, and computer software packages have gained attention and popularity as alternative means for expanding developmental education. It is necessary to gather more evidence about these educational methods, specifically in terms of determining how they best fit with the mission of public institutions and national standards for assessing learning outcomes. How can we determine the best "fit" for developmental education related to students' needs? What is it that typically is used to gauge this fit between educational means and contexts, and what is needed in the future?

There is some evidence that private companies like Kaplan have spent millions of dollars in advertising, but have received few customers. Research on these agencies is beginning to reveal small gains in students' levels of understanding and test score performance, but these are not shown to be large or long-term improvements in areas such as reading (Caverly, Orlando, & Mullen, 2000). There are some advantages to these private, corporate-sponsored models of education, such as their unique attention to standardized assessments and the ability to place fewer students in required remedial programs as a result. The impact is still unknown in terms of long-term effects on students' achievement in all academic areas, and research needs to continue to track this as we make future recommendations and assessments about the role and fit of developmental education in public institutions.

As these private organizations gain the attention of the popular media, another set of questions arises in discussing how developmental education is determined to fit, or not, within institutions. What does it mean for this field to "fit" into the broader landscape of higher education? What kinds of research do we need to gain credibility in our current methods in the field? There are many definitions of "developmental education," each arising from a unique set of contexts and educational needs. In this session, Hunter Boylan offered that developmental education is a "continuum of services" ranging from introductory course models, to learning centers and Supplemental Instruction strategies, to learning communities. This definition can even apply more broadly across all levels of education, from high school to graduate students. Determinations about the type of developmental education that will be used depends on a range of factors, such as the need to serve specific populations of students such as English as a Second Language (ESL) students, or the establishment of learning centers set up to serve all students in specific content areas such as mathematics, reading, and writing.

The popular debates typically center around where this education should be placed and which students need to be served. There is still strong sentiment that remediation should only be part of community colleges, yet a range of developmental education services exists across the educational spectrum in all kinds of programs. For example, Harvard and the University of California at Berkeley use tutoring and learning centers to supplement students' regular course instruction. Although it is not called "developmental," these methods fit the definition of developmental education and are used widely to assist students who require extra help. Teaching students how to learn is at the heart of the developmental education mission, and this notion is something that applies to all students at all levels. This sort of statement about learning, to provide support and access for students, is also often reflected in many college mission statements. Yet more frequently, however, the notion of deficit, failure, or lack of preparation foregrounds most definitions of developmental education, encompassing students and programs that have been placed in a mar-

ginal or inferior space. This definitional issue often leads to the separation of many programs and courses from the mainstream education mission due to this stereotypical view of students served by developmental programs. As a result, many students entering these programs enter them on the basis of having failed to meet requirements such as test scores, grade point average (GPA), and high school rank—performance markers that do not always adequately indicate their future abilities to succeed in higher education. Thus in determining how and where developmental education fits within institutions, these definitional issues need to be further examined in relation to broader goals and mission statements made by these programs.

When is learning "developmental," and is it necessarily different from other forms and processes of learning? How is it differentiated from other introductory aspects of the curriculum of higher education? An example of the difficulty of this question lies in the example of ESL and foreign language courses. Introductory language courses are not considered developmental, yet students are certainly learning these skills for the first time and at a basic level. There is also a debate as to whether ESL courses should be considered "developmental" as well. Where these courses are located, whether they are sidelined or mainstreamed, is more than a simple definitional issue. Often a course becomes developmental for a student for several reasons. If he or she has not met specific entrance expectations or achieved prior learning outcomes, or has failed to complete or pass courses along the way, this student may need to retake certain courses in college—like a math course, for instance. Other factors placing a student into a developmental program may include extended time away from school, such as in the case of returning adult students. In these cases, the course or curriculum is viewed as a linear step toward something else, or as a penalty. Yet learning centers and tutorial services are frequently viewed as acceptable spaces for students to get the extra help they need and are not immediately viewed as "developmental" environments or activities. Although most educational theories about how students learn indicate that a range of learning styles, activities, supports, and timelines are needed in the learning process, the ways that these activities are divided up and recognized within higher education do not reflect this complexity.

What is at the heart of the ever-popular and present debates about the appropriateness of the existence of developmental education in university settings? Why is it still popular to place these activities primarily in community colleges and separate, sidelined programs within four-year institutions? The curriculum continues to reflect an attitude that a one-size-fits-all model of education is the norm, and that students who have not succeeded in that mode are "developmental" and in need of some reform measures to fix this perceived deficit. Collectively, it is clear that policy makers need to learn more about the problems inherent in this type of thinking. Additionally, many colleges that do not want to have developmental education programs frequently do want to increase their numbers of graduating students from historically underrepresented groups, such as students of color, returning adults, and first-generation and low-income students. Yet they do not understand the role that developmental education can play not only in serving those students who have not been retained successfully in traditional programs, but in serving a variety of other individuals whose backgrounds have not always been proportionately represented in higher education (e.g., students with disabilities, low-income and first-generation college students, returning adult students, and students of color). Arguments about the positive role of developmental education in the university setting need to be made, focusing on successes in retaining and graduating these students. All universities do some form of this education already, or at least serve a wider range of students than policy makers will admit. It is important to continue to explore and articulate the ways that developmental education already "fits" within these institutions and serves students through a variety of methods and program models.

Another related argument about developmental education that can be made to administrators is an economic one. What is the stated mission of universities and colleges in terms of preparing students to contribute to society and culture, and how much of this can effectively be measured by the number of students entering the work force? What skills qualify students for most jobs in our society? What role do most institutions claim to play in serving society in terms of the overall economy? While community and technical colleges recognize this relationship and offer curricula that prepare students for a range of specific career options, most universities do not offer direct preparation in these vocational areas. Yet it is projected that in ten years the number of college graduates that will be needed in the workforce will increase dramatically and will reflect a different demographic than is presently attending and graduating from higher education programs (Levin, 1999). There is a demonstrated economic need to increase the participation in higher education by nontraditional students, and it is important that this be communicated to policy makers. The eco-

nomic argument is a critical one as projections are made about the future of higher education and as programs are shaped presently to accommodate these needs. Future partnerships between community colleges and universities must be made in conjunction with the needs of industry.

The economic argument, however vital, does not encompass the goals of all higher education programs committed to developmental education. The goal of creating lifelong learners and critical thinkers remains a top priority in most institutions of higher education. If we argue that we are preparing students primarily for work, are we limiting them? This question is important for both two- and four-year programs to consider as developmental education is conceived differently across these contexts. What is the role of a two-year degree as it "fits" into both educational goals and in the landscape of society? What is the function of preparing students for a four-year degree? Again, even as we attempt to define and justify developmental education to a wider audience, we are faced with the reality that a "one-size-fits-all" model for education does not work. There must be a fit between the type of developmental education and the type and goals of the institution. Research is again needed to further determine the optimum "fit" in each case.

An overview of the missions of institutions, their forms of developmental education, and the niche each institution serves locally would be beneficial for the field to gather and outline in more depth. This would function as a way to demonstrate the spectrum of developmental education activities and services, instructional strategies, and theoretical foundations. The form of developmental education changes with each mission, and those arguments that attempt to sideline and oversimplify the role of developmental education can be challenged through a better understanding and evidence of this wide range of activities constituting the spectrum and continuum of developmental education. Given this broad-ranging definition of how developmental education "fits" into institutions, it seems that it does indeed fit and exist appropriately within most places. The long-range strategy is to continue collecting evidence that will convince administrators and policy makers of this fact. We need, in a sense, to "fit" arguments about developmental education into the larger conversation about the mission of higher education and its relationship to society. From K-12 to graduate school, there is a continuum of developmental activities that are necessary to transition students into a range of options, such as jobs and higher education. Current options must be explored and evaluated for their success in preparing students for this range of activities.

Some concluding recommendations and future directions emerging from this conversation include the following:

1. When articulating different kinds of developmental education and the "fit" of these programs within institutions, it is important to form productive partnerships across different kinds of institutions. For example, the relationship between community college developmental programs and those within four-year universities needs to be strengthened as issues about programmatic and student "fit" are addressed in these various contexts.

2. Societal values frequently shape the conversations about whether or not students or programs "fit" within institutions of higher education. It is important for the field to move beyond the questions of individual and programmatic fit to questions about the broader forces driving these conversations in the first place (i.e., equity, opportunity, affirmative action, and so on).

3. It is also critical that the students themselves and their needs as learners remain at the center of these debates about the nature and fit of developmental education programs. Frequently their needs are not foregrounded in framing the critical questions; rather, the primary concerns are typically derived from institutional and administrative standpoints.

4. When discussing future research activities in this area, key critical questions need to be outlined to guide this work more effectively. It is important to move the conversations beyond the usual focal points, and substantial action must be taken.

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The Costs and Economic Impact of Developmental Education

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Summary compiled by Dana Lundell

Two primary questions set the framework for discussion in this examination of the costs and economic impact of developmental education. How do we define the cost(s) of developmental education (i.e., economic, social, moral)? What if we did not have developmental education; what additional costs would be incurred due to the absence of learning support in higher education? Recent data analysis of research related to college student placement suggests that half of college students are defined as underprepared in some way and that many of these students require only one or two courses to meet the requirements of higher education. Furthermore, if developmental education programs did not exist, these studies indicate that each year 2,000,000 students would leave higher education (Phipps, 1998). Additionally, the impact on business and industry would be widespread if this many students could not participate in higher education programs simply because developmental opportunities were not available (McCabe & Day, 1998).

One key difficulty is that we do not have a standard equation for what to include in the costs of developmental education (Phipps, 1998). Which services should be included (i.e., support, advising, courses, staff)? What do we know about alternatives to developmental education and their costs? Not enough data has yet been generated on the impact of organizations such as private learning centers to make useful comparisons and assessments, yet these arguments are taking hold in challenging the present status and perceived costs of developmental education. More research is needed on the long-term impact of developmental education as it correlates with changing student demographics and their projected needs in entering an increasingly diversified work force. A growing need is emerging to retain students not only through baccalaureate degrees but also to retain them through graduate-level programs so they may gain the more specialized knowledge required in many professional positions (Barton, 1999).

One barrier to addressing these issues is that many people continue to believe and argue that we should not be spending money on developmental education. This belief is often the result of a lack of information about these programs and a dominant perception that this type of education lowers academic standards. This intellectual argument is frequently made against open admissions programs and arises in response to a plethora of issues related to public misperception and varying beliefs about the broader function of higher education in our society. Budgetary claims frequently appear to drive these arguments, making the educational dollar the bottom line in the equation and developing evidence of overspending and underachieving in developmental programs. Yet many developmental education programs face internal difficulties that contribute to this tension, including ongoing lack of administrative support, underprepared faculty, and institutions untrained in dealing with nontraditional students, and other barriers to communicating the successes and necessities of these programs to a wider audience.

A counterpoint is often made by supporters of developmental education who argue the moral implications of these programs, demonstrating the elitism inherent in the popular intellectual, dollar-based arguments. Examples of this are evidenced in the inherent biases of standardized testing (PBS Frontline, 1999), demonstrating systematic racism and classism in popular methods of "sorting out" who does and does not get access to higher education. Although it is common knowledge among most developmental educators that the educational landscape is not always equal, more research is needed to continue to highlight the social inequities that contribute to the need for developmental education within all institutions of higher education. The notions that all students can be served by these programs, and that prior preparation is frequently the result of a complex combination of factors, are important sociopolitical counterpoints to articulate in response to economic arguments about the real costs of education and how developmental programs play a role in the educational continuum.

Another distinction in these cost-related arguments relates to definitions of developmental education. The National Association for Developmental Education (NADE) establishes that developmental education addresses the whole student through a variety of learning strategies, theories, and support services (NADE, 1995). Recent alternatives to public models of developmental education, such as privately funded learning centers, are predicated on a model of education exemplifying a more purified, skills-based definition of education, modifying curricula to provide instructional strategies such as one-on-one tutoring or small group activities. Other modes of education through advances in technology, such as distance education (e.g., full courses, online tutoring, and video-based Supplemental Instruction), have also provided alternative methods for delivering academic curricula to students from remote locations. Early findings indicate that distance education has a higher dropout rate than on-site programs, yet the costs remain lower than traditional programs (Phipps, 1998).

We need to continue examining these models critically to evaluate their level of effectiveness and overall costs in educating students. These models, along with traditional developmental education programs, need to be evaluated as a full range of tools available for educating students—not as distinctly separate or complete solutions for the need to prepare students. Again, the notion of "cost" related to these forms of education needs to be examined as it relates to local needs, diverse contexts, and available resources and support. In addition to the obvious costs of running programs, another aspect of this issue is the range of hidden "costs" associated with many popular, emerging trends such as technology. There are often higher initial costs for training tutors in online environments, for example, and for upgrades and changing technologies. Additionally, the time investment involved in changing over to new programs requires a higher level of investment and training during implementation phases. Thus, the issue and discussion of "cost" becomes far more complex than any one method or solution that is proposed. Often greater financial resources are required to develop a well-supported, sustainable developmental education program, but in the long run, this investment can prove to be beneficial in terms of its increase in student retention and creation of successful K-12 transitions into higher education.

Another area of "cost" which has arisen in developmental education recently is the issue of certification for programs and educators (Kowal, Shaw, & Wood, 1998; Shaw, 2000). Legislation is presently beginning to mandate this process in several states in response to reviews of test scores for high school and college students. This will require a higher investment in the areas of professional development as evaluations are conducted and as faculty and staff receive more standardized training. What is the impact of certification both in terms of direct financial costs and in terms of the costs of not certifying programs and educators? These trends will require a closer examination and research needs to be done to demonstrate the outcomes.

Overall, the arguments need to be further articulated, investigated, and publicized. The successes of developmental education, as well as the complexity of the relationship of resources and support programs to the standard curriculum, must be researched and evaluated. We must not only examine this problem internally within the field, but also we must demonstrate the value and quality of developmental education to a wider, skeptical public who continues to challenge the long-term benefits by focusing on a narrow definition of "cost" related to education.

Future Questions

1. What parameters should be included in the cost of developmental education? Can some commonalities for studies be found?

2. How can better information about developmental education be dispersed?

3. How can we evaluate new models for disseminating developmental education in terms of effectiveness and overall costs in educating students?

Recommendations

1. Economic impact studies of education are being made (Tennessee Board of Regents, 1998). Similar studies could be created to demonstrate the effects of developmental studies programs.

2. National organizations such as the National Association for Developmental Education (NADE) could create guidelines and outlines for studies concerning costs.

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Enhancing Credibility, Gaining Recognition, and Eliminating Any Stigma Associated with Developmental Education

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Summary compiled by Dana Lundell

One distinct obstacle faced by most developmental educators is the ongoing challenge made from a variety of sources about the credibility of this work in higher education. Despite strong histories and demonstrations of success by many programs, we continue to deal with the negative stereotypes and stigma related to our students, our mission, and the appropriateness of our role in institutions of higher education. Additionally, these issues of credibility are fueled by very real and complex circumstances—reports on student retention, achievement on standardized testing, and a changing society in terms of workforce needs and social demographics. It is important to work toward increasing the recognition of positive work being done in developmental education, particularly that which eliminates stigmas and stereotypes informing many of the attitudes that can be counterproductive and misleading.

First, our activities must focus proactively on the area of enhancing credibility of our field. Continued development of programs that can provide individual credentials such as graduate degrees, along with the encouragement of students and professionals to earn these credentials, is an important move toward gaining status within higher education. However, there is also some debate about the certification process and its outcomes, particularly as it relates to certifying individuals. Does this process serve to set people and programs apart, or provide them with further leverage and status? Additionally, the great numbers of part-time and adjunct staff in developmental education need to be highlighted in these arguments in terms of the benefits and disadvantages of certifying individuals in the field (i.e., there is not an equal playing field and incentive base for all developmental education professionals to access and attain these credentials). It is difficult to certify large numbers of people, especially with the diverse range of skills and backgrounds for professionals in developmental education. Also, certification is a prominent feature of public schools, but is it the best approach for postsecondary settings? We need to explore this further and examine our unique needs in this arena. What is the impact of individual certification in higher education, given the wide range of professionals and services?

A more positive response continues around program certification and its benefits in terms of enhancing credibility, especially in terms of constructing a more solid national profile for developmental education. What do we ultimately gain by working toward program certification through organizations such as the National Association for Developmental Education (NADE) or the College Reading and Learning Association (CRLA)? In doing this, we also need to involve outsiders in this process (i.e., for the design, implementation, and evaluation stages) and be thoughtful in our construction and implementation of the criteria for evaluation. When considering the issue of certification as it relates to presenting broader evidence of credibility, we need to consider both internal and external definitions of what is considered credible and valuable. What is considered credible by the general public or policymakers may not reflect our internal sense of what is truly "credible" and measurable in this sense by processes such as certification. This needs to be observed carefully and strategically as we move toward adopting these initiatives. What do these measurements and certifications reveal, and whose needs do they address?

In terms of gaining recognition, another area that needs to be expanded is research in postsecondary developmental education. As developmental education is a crossover discipline, merging many fields and philosophies, we need to determine the best ways to make our research engaging to a variety of other disciplines and educators. For example, cognitive research in the field of educational psychology has been utilized as a methodology in developmental education research. Yet mainstream educators in that field may not have seen this important application as the publication outlets often remain separated, and often developmental education journals are viewed as featuring "lower level" research

focused on fundamental skill development. We also need to make clear and expand the obvious, yet underexplored, research in other disciplines relevant to our field, such as critical pedagogy, multicultural theory, and research on discourse and communication. Additionally, we should consider the benefits of working across mainstream research organizations such as the American Educational Research Association (AERA), the American Association of Higher Education (AAHE), and the Association for the Study of Higher Education (ASHE) to increase our profile as a research entity. As definitions of developmental education expand, this needs to be equally reflected in our future research agenda. The identification of our research priorities is necessary in response to these challenges to our credibility. Issues of student retention, minority education, transitions from K-12 to college, and alternative approaches such as learning communities and mainstreaming are key areas. Internally we need to shape this agenda in response to these public challenges to our work and calls for our expertise. Also, we need to work toward gaining funding from well-known granting agencies to secure an ongoing relationship with the means necessary to support and expand this agenda. A thoughtful and sustainable research agenda is key to creating a long-term increase in our credibility as a field.

Another key issue in gaining credibility is to find a way to address issues of retention that frequently fuel concerns about the role of developmental education. Creating seamless transitions for students from K-12 into higher education, and retaining them successfully through graduation, are important issues for entire school systems, not just developmental education providers and their programs. This notion requires stronger collaborations with other departments and administrators in addressing the long-range questions about how students make these transitions into other programs. Again, the mainstreaming argument, and the integration of academic support services across the curriculum for all students, become important strategies for working toward a more inclusive, cross-curricular model of developmental education. The notion of developmental education as a continuum of services and needs is useful for all students, not just for a few or targeted group of individuals. In this way, we can continue to enhance our credibility and gain recognition with other campus departments that traditionally do not view their work along this continuum, yet also serve students whose educational needs require the kinds of support programs and educational methods used in developmental education.

Overall, the issue of gaining credibility and eliminating any stigma is a conversation about long-term goals of the field. The issue of retention emerges as key to this discussion, specifically in terms of how developmental education shapes it. There are a variety of theoretical lenses and research directions that can begin to address this, and we need to examine and apply them in a way that effectively challenges arguments against our profession.

Future questions that must be addressed by developmental educators include:

1. How do we measure retention?

2. What are the key arguments related to access that developmental education effectively addresses?

3. Which other theories and disciplines can be applied to these definitions?

4. How can our research efforts in these areas work toward eliminating the stigma associated with developmental education?

5. What kinds of collaborations and partnerships will be most effective in addressing public concerns and debates that criticize and sideline our efforts?

Recommendations

1. Continue to work on the definition of retention and ways to measure it.

2. Define the role of developmental education as it relates to retention.

3. Examine the impact of alternative models such as learning communities, mainstreamed services, and freshman seminars.

4. Apply other research and theoretical lenses to this work. Our work needs to appeal across the disciplines as well and needs to be addressed by other journals and professional organizations where it is relevant.

5. Continue work on theory and research with the developmental education community in order to gain ownership of public debates on these issues, gaining internal value and self-definition before and as we answer these challenges to our credibility.

6. Explore how our work on self-definition contributes to a positive argument against these criticisms (i.e., how does a continuum and inclusive definition of ourselves as a field, as opposed to having separated programs and services primarily defined locally, work to

insert ourselves into broader conversations about higher education and students in transition?).

Standards: Implications for Training, Professional Development, and Education

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Summary compiled by Dana Lundell

The movement toward creating standards for developmental programs and educators challenges us to think about the implications for training and professional development activities. Standards include proposed measures to evaluate programmatic and individual successes in educating students, as well as accreditation of future educators in developmental education. These questions include: What standards have been proposed or established? What means are necessary to implement these locally and nationally? Who will be in charge of defining these standards, and how will they be accomplished? What are the outcomes of present attempts to do so, positive and negative? The question of creating and measuring "standards" becomes complex when applied to the future of developmental education and its broad range of contexts and goals.

There are many problems related to the implementation of standards for programs, as well as with evaluating the outcomes. Whether the standards are set internally or externally is a matter of concern, particularly as national criteria are developed. The impetus for creating standards can arise from several directions. A national call for programmatic standards related to student retention may create an entirely different set of issues than the need to develop training and certification for graduate students and adjunct instructors. A common thread in these issues is the need to establish professionalism and accountability for the field of developmental education. But what is the best means for doing this? How can professional organizations respond to and evaluate the growing trend in this area to establish standards for programs and individuals?

How do we begin to set standards, and for what larger reasons do we set them, as we continue in the future? The underlying motivation for standards needs to be further examined both nationally and locally, as variations in programs and needs are diverse, as are the faculty and staff running these programs, and as are the students being served. One area presented in this discussion focused on individual standards and the criteria used for determining these. Which models do we draw upon in creating a structure for evaluating the role of individuals in developmental education? What kinds of things do we need to evaluate and standardize in terms of new personnel and programs? There are a range of professionals teaching in these programs and resource centers—tenured and tenure-track faculty, professional support and advising staff, and graduate and undergraduate students. Presently there are only four graduate programs in developmental education, so the range of faculty and administrators is varied widely in terms of background and experiences as they enter and run these programs. What kinds of preparation have been useful in the past that can serve as standards for the future development of these professionals? We can begin to look at the development of certification for individuals in graduate school, ongoing training for faculty, and supervision and training for undergraduate tutors. However, these require ongoing support and structure to be sustained, and not all individual departments can support this given the limited resources in most programs. It is important to evaluate what is being done for both positive and negative implications and outcomes as we develop and discuss the implementation of standards in developmental education.

One response is to work on developing a broader research base to inform these decisions so we can determine proactively the needs we have as a field as we respond to a wider call for standards in developmental education. How can we begin to assess and develop the criteria we will use in setting standards for individuals who teach and administrate in these programs? Because the range of services in developmental education varies so much, we can focus on a variety of things as we develop standards for professionals in the future. It is difficult to measure and recognize who meets standards when the range of activities is so diverse. We need to consider which activities and outcomes in the past can serve as examples for measuring performance of individuals working in developmental education. These can

include a focus on retention rates, student evaluations, and research contributions to the field—as an example of the variation which could alone be used to assess teaching faculty and staff. How do we develop a credentialing or accountability measure that can confirm a set of standards, but that can also provide a flexible range of activities and backgrounds as appropriate to providing quality developmental education?

A related issue is how we recognize and reward those individuals who are meeting and improving upon these standards within programs. Many of these changes require extra time for those working to meet and exceed the standards, and this needs to be rewarded or recognized in some meaningful way. Whether or not this occurs individually (e.g., awards, pay, time release) or programmatically (e.g., tenure requirements) is an issue. Also, as we might develop standards for professionals, is there a way to avoid a "class" system from developing that may reward some but not others who are doing similar types and amounts of work in meeting the requirements? For example, we need to remember there are many adjunct instructors, graduate students, and non-tenured staff working in these programs who will also require training but who may not be systematically in line to receive the benefits as instituted within their programs. Some examples of professional rewards might include personal incentives (e.g., vita-building experiences like conference participation, certification, money) and institutional incentives (e.g., rewards for participating in ongoing professional development programs, promotion). These individual standards need to be developed thoughtfully and purposefully in response both to internal demands and requirements of programs and to external requests of administrators and national organizations as the need arises.

Beyond individual standards, there is the issue of national and programmatic standards. It will be important to determine which national organization will respond to these issues, creating definitions and criteria for developing and implementing these standards. Is the National Association for Developmental Education (NADE) the likely host for this initiative, and in collaboration with which other national organizations? What ideal role or position should they take? A focus at the national level will also include a means for maintaining compliance to these measures, as well as supporting and encouraging institutional buy-in to the standards through a variety of resources and professional networks. A variety of mechanisms need to be explored in developing a resource bank for developing standards across institutions, including ongoing training at state and national conferences, grant development to provide representatives and workshops at the local level, and continued research focusing on the outcomes of standards in developmental education. Additionally, the successes of national developmental education programs will need to be assessed in developing standards for the field and for individual institutions. These programs will provide models for determining best practices in the field and informing future conversations related to standards for individuals and institutions, as well as in assessing the use of standards in the curriculum.

Institutional needs, like individual ones, will vary tremendously as they relate to and impact standards implementation. We need to become aware of the obstacles and negative evidence we find as the implementation of standards impacts students in these programs. Means for propagating standards, as well as an ongoing self-examination of the question of standards in developmental education, will need to include widespread research and publication about the outcomes. Does having standards for individuals and institutions contribute to a more professionalized field? Does it benefit students? What problems and positive outcomes are we finding, and does the field wish to develop more in this direction?

The issue of standards is complex, partly due to the wide range of developmental education programs. This is also due to the variety of "standards" that have been discussed—individual, institutional, national. The conversation ranges from the need for certification, to the difficulties in implementing such programs, to the problems with the whole concept of having standards for such a diverse landscape in education. This is partially in response to a growing need to justify the products and processes of developmental education to a wider audience focused on such a notion. Again, it is important to continue this discussion and develop the research necessary to make the subtle distinctions and applications of standards to the future of developmental education.

Recommendations

Several recommendations were made to address the issue of implementing standards for developmental education programs and individuals:

1. A clear reward structure needs to be developed to provide incentives and recognition for those who meet standards, the easiest of which include fellowships, awards, and public directories of recipients.

2. In setting standards, this reward structure needs to be communicated and made visible to individuals, and employers who hire, and be built into the larger program certification requirements.

3. Institutional buy-in is needed in the long run, and this needs to be established through a relationship with national accrediting agencies who can help create and communicate these standards.

4. The research base needs to be expanded in this area, examining the outcomes of implementing these standards at all levels.

5. It is important to provide standards for future faculty such as creating more graduate programs in developmental education and other avenues for formal credentialing for educators in these areas. Current graduate programs should form a network to facilitate a discussion of their various standards and expectations.

6. Tenure-track incentives need to be reconfigured to match institutional demands and expectations, such as recognizing this work on resumes and benefits for new and existing faculty who are developing in this area professionally.

7. NADE's definitions need to be used in defining standards, as well as reflecting those which already represent current "standards" in developmental education practice.

8. Grant monies should be used to fund national efforts to provide trainers, programs, and guidelines, specifically as they can further develop standards for certification.

9. There needs to be continued conversation at the national level in "best practices" in developmental education, informed by ongoing research, theory, and practice.

10. Practitioners need to be involved in setting both programmatic and individual standards.

11. Professional associations in developmental education and learning assistance fields (e.g., National Association for Developmental Education, College Reading and Learning Association, National College Learning Center Association, and National Tutoring Association) must communicate with one another regularly regarding standards used in their various certification initiatives.

12. Standards and certification programs should be clearly communicated to state legislatures and any higher education boards operating within states.

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